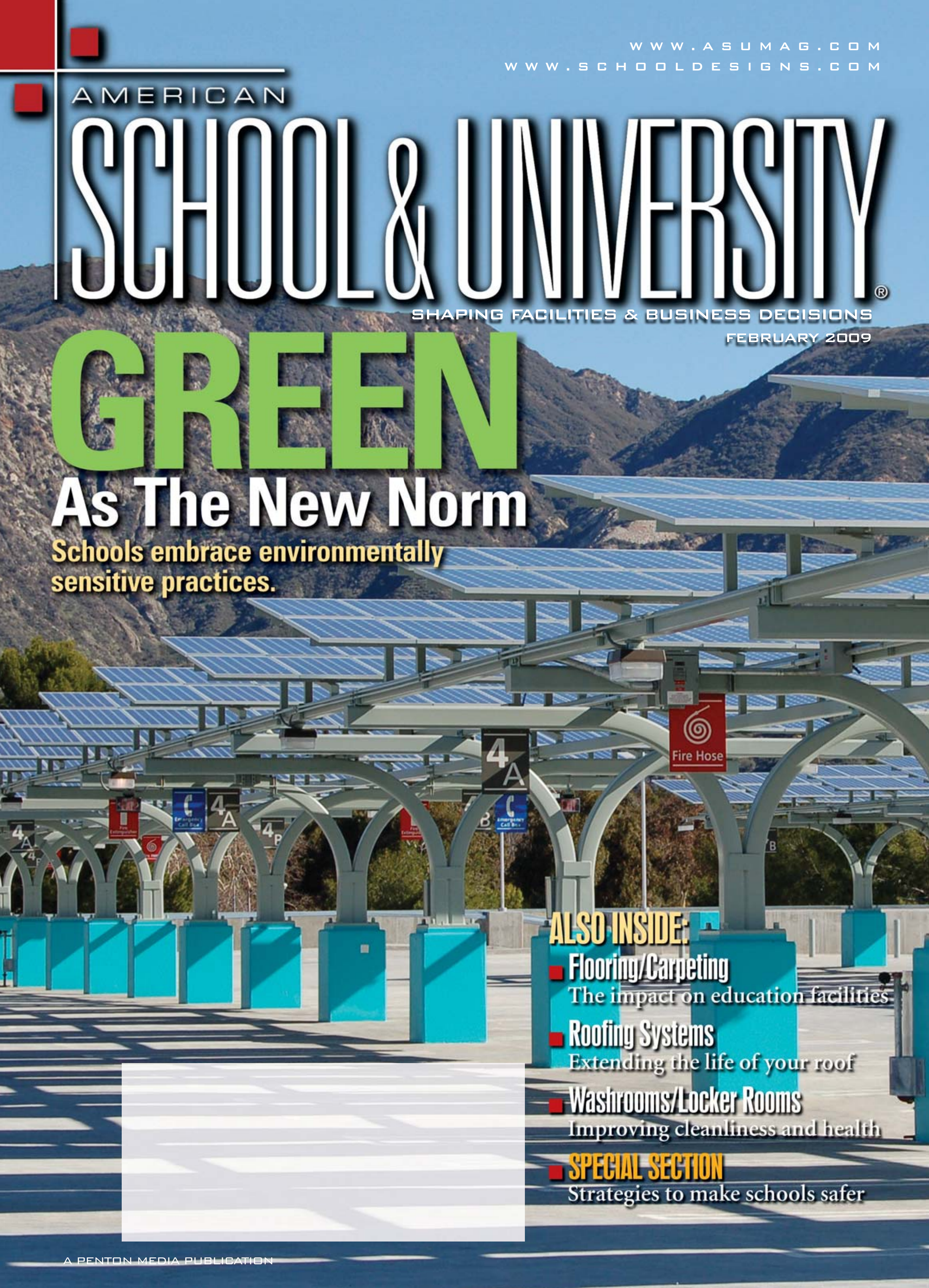


WWW.ASUMAG.COM
WWW.SCHOOLDESIGNS.COM

AMERICAN SCHOOL & UNIVERSITY®

SHAPING FACILITIES & BUSINESS DECISIONS
FEBRUARY 2009

GREEN As The New Norm

Schools embrace environmentally sensitive practices.

ALSO INSIDE:

A PENTON MEDIA PUBLICATION

SPACEPLUS®
VALUE BEYOND DOORS



INTERIOR SLIDING DOOR SOLUTIONS

Circle 101 for more information ■ freeproductinfo.net/asu

GSA Contract Holder
GSA CONTRACT # GS-07F-0481T

CAGE CODE: 4KKJ1
NAICS CODE: 332311
DUNS NO: 78-476-6508

We look forward to hearing from you.
Toll Free: 888.383.8381
www.spaceplusLLC.com



Green, prudent... and economical.

Eclipse® Warm Air Hand Dryers: Contemporary design. 95% savings compared to paper towels. Eliminates towels, and waste disposal. Hygienic, no-touch operation. Drawn-steel white vitreous enamel or bright-polished chrome-plated cover. Vandal-resistant. Lifecycle economies.
© 2008 Bobrick Washroom Equipment, Inc., 800.553.1600, bobrick.com

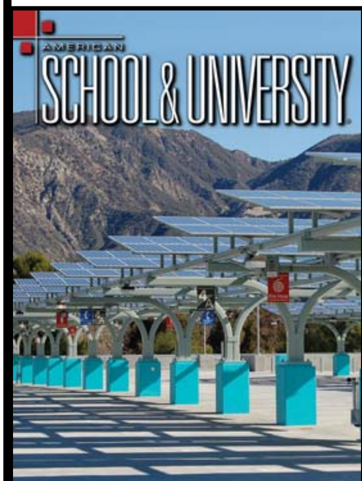
Circle 102 for more information ■ freeproductinfo.net/asu

AMERICAN SCHOOL & UNIVERSITY
SHAPING FACILITIES & BUSINESS DECISIONS
VOLUME 81 • FEBRUARY 2009 • NUMBER 6

CONTENTS

DEPARTMENTS





On the Cover: L.A. Mission College, Los Angeles Community College District, parking structure
Photographer: Build LACCD

Join in free for green schools!
Mark your calendar for an innovative, groundbreaking event: GREEN School & University Virtual Conference & Expo, June 24, 10:30 a.m. to 6 p.m. EST. Learn about new technologies and share best practices. To register, visit the website: ASUmag.com/green_virtual_conference

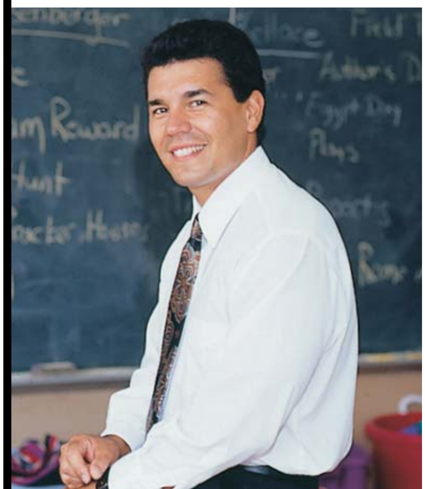
www.ASUmag.com · www.SchoolDesigns.com

COVER STORY



Nearly 800 commercial carpet styles feature EPP-certified Antron® fiber – each one enduring and beautiful, and all tested to meet our demanding performance standards. You can count on it. With facts. With action. With carpet that lasts.
Visit antron.net/url for a list of available styles and to discover our Facts in Action.
say [DO]™
FACTS IN ACTION
[PERFORM]
Featured carpet: Line Dance by Monterey
SCIENTIFIC CERTIFICATION SYSTEMS
SCS
Environmentally Preferable Product
Carpet Face Fiber
Antron®
carpet fiber
Antron® is a registered trademark of INVISTA. © INVISTA S.à r.l. 2008. All rights reserved.
Circle 103 for more information ■ freeproductinfo.net/asu

Stimulus Tug of War



Education found itself at the center of a tug of war this month as part of a landmark economic stimulus initiative.

The original House version included $20 billion for school construction; education infrastructure was a casualty in the Senate version of the stimulus plan. Other education funding also suffered in the Senate version.

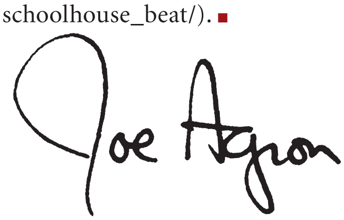
When the dust cleared in what turned out to be a whirlwind negotiation session to finalize a compromise stimulus package, school construction funding lost. However, as part of a fiscal stabilization fund included in the package, states can use some of the money for school renovations.

Even as many states and localities have passed bond issues to build much-needed new schools and repair and upgrade existing facilities, the potential funding for infrastructure will be an adrenaline shot to help address a massive backlog of need, create thousands of jobs, and transform outdated classrooms into effective learning environments.

President Obama and Democratic leaders in the House were determined to keep school construction part of the final economic stimulus package. If history tells us anything, it is that this will not be the last time school construction takes the national stage. Just last year, the House passed the 21st Century High-Performing Public School Facilities Act—providing $20 billion in funding for school construction over five years. The Senate, however, did not take action on the bill.

Over the past 15 or so years, similar funding initiatives have been proposed in Washington in an attempt to help repair America's deteriorating education infrastructure—only for the potential funding to be squelched because of ideological differences between the parties.

For more details on the stimulus, specifics on the education aid, as well as the latest developments and news on how it may impact you and your institution, visit ASUmag.com for daily updates. While you're there, share your concerns, ideas and best practices on how you are managing the current economic crisis at our blog (http://blog.asumag.com/schoolhouse_beat/).



jagron@asumag.com

WEB 101

Learn from the experts

With the landmark economic stimulus bill just passed, infrastructure and green initiatives are taking center stage—and will be growth areas for years to come. Are you and your institution positioned to make the best decisions with regard to design, construction, energy efficiency and operations?

Learn about the latest trends, developments, technologies and best practices by attending the **GREEN School & University Virtual Conference & Expo**, June 24, 10:30 a.m. to 6 p.m. EST. The free, interactive event, produced by *American School & University,* allows you to attend education conferences by thought leaders in the green movement, learn about the latest green products and services, chat with fellow administrators and architects, pose questions to experts, download literature and much more—all from the comfort of your office.

For more information and to register for the free event, visit ASUmag.com/green_virtual_conference.



GREEN School & University
A Virtual Conference & Expo



TEXT™

Virco's all-new TEXT™ Series includes dozens of table, seminar and desk models with more than 15 options and accessories for power/communications, wire management, mobility and storage.









VIRCO®

For more information call us today at
800-813-4150 or visit www.virco.com
- equipment for educators™

Government Purchasing Alliance
U.S. COMMUNITIES™
Government Purchasers Saving You Money

Children & Schools
GREENGUARD®
Indoor Air Quality Certified

REF# 09003
©2009 Virco Inc.

Circle 104 for more information ■ freeproductinfo.net/asu

Join us in 2009



Plan now to include your best projects in *American School & University*'s 2009 Educational Interiors Showcase and Architectural Portfolio issues. The premier competitions honoring education design excellence–and your chance to be featured in the pages of *AS&U*.

Contact Molly Roudebush at 913-967-1959 or mroudebush@asumag.com to make sure you are on the list to receive 2009 Call For Entries materials!

AMERICAN SCHOOL & UNIVERSITY

ASUmag.com • SchoolDesigns.com

ASUMAG.COM • SCHOOLDESIGNS.COM

AMERICAN SCHOOL & UNIVERSITY

Editor-in-Chief/Assoc. Publisher	*Joe Agron*	*jagron@asumag.com*
Executive Editor	*Susan Lustig*	*slustig@asumag.com*
Staff Writer	*Mike Kennedy*	*mkennedy@asumag.com*
Associate Editor	*Julie Hall*	*jhall@asumag.com*
Senior Art Director	*Jennifer Ray*	*jray@asumag.com*

Editorial Contributors – *Stephen Ashkin; C. William Day; Martin J. Dunn; Bob Hull; Richard Shaw; Association of School Business Officials International; American Institute of Architects Committee on Architecture for Education*

Editorial Advisory Board

-David M. Hill, Director of Facilities/Operations, Blue Valley School District No. 229, Overland Park, Kan.
-Bruce Mather, Executive Director of Facilities Management, Elmhurst College, Ill.
-Bryan C. McGair, Assistant Superintendent for Finance and Support Services, Medford Township Public Schools, N.J.
-Martin Montaño, Capital Projects Administrator, Rio Rancho Public Schools, Rio Rancho, N.M.
-James E. Rydeen, FAIA, Armstrong Torseth Skold and Rydeen, Inc., Minneapolis

Senior Vice President	*Warren Bimblick*	*warren.bimblick@penton.com*
Group Publisher	*Gregg Herring*	*gregg.herring@penton.com*
National Sales Manager	*Bill Perry*	*bperry@asumag.com*
Western Sales	*Ron Levinson*	*ron@levinsonmedia.com*
Northeast/Upper Midwest Sales	*JoAnne Romanek*	*jromanek@asumag.com*
Midwest Sales	*Tom Nilsen*	*tom.nilsen@penton.com*
Classified Sales Manager	*Gary Kazmier*	*gary.kazmier@penton.com*
Online Sales/Marketing Mgr.	*Julie Fincher*	*julie.fincher@penton.com*
Senior Marketing Manager	*Molly Roudebush*	*mroudebush@asumag.com*
Marketing Manager	*Susie Barroso*	*susie.barroso@penton.com*
Senior Research Manager	*Elinor Rice*	*elinor.rice@penton.com*
List Rental	*Walter Karl*	*www.walterkarl.com*
Senior VP, Operations/Technology	*Lisa Parks*	*lisa.parks@penton.com*
Production Manager	*Melissa Langstaff*	*melissa.langstaff@penton.com*
Ad Production Manager	*Jessica Andreas*	*jessica.andreas@penton.com*
Classified Ad Coordinator	*Melissa Scheffler*	*melissa.scheffler@penton.com*
Audience Mktg. Mgr./Circulation	*Jessica Martinez*	*jessica.martinez@penton.com*

Penton Media

A PENTON MEDIA PUBLICATION
Chief Executive Officer – *Sharon Rowlands, sharon.rowlands@penton.com*
Chief Financial Officer/Executive Vice President – *Jean Clifton, jean.clifton@penton.com*
Chief Revenue Officer – *Darrell Denny, darrell.denny@penton.com*

MEMBER ORGANIZATIONS
- Business Publication Audit of Circulation, Inc.
- Educational Press Association
- American Business Media

***American School & University*, Volume 81, Issue 6,** ISSN 0003-0945 is published by Penton Media Inc., 9800 Metcalf Ave., Overland Park, KS 66212, 913-341-1300.

SINGLE COPIES: To order single copies, call 866-505-7173 (USA) or 847-763-9504 (outside USA).

SUBSCRIPTIONS: Free and controlled circulation to qualified subscribers. Non-qualified persons may subscribe at the following rates: USA: 1 year, $69, 2 years, $109; Canada: 1 year, $79, 2 years, $139; other international: 1 year, $99, 2 years, $159. Prices subject to change. For subscriber services, write to *AS&U*, PO Box 2100, Skokie, IL 60076-7800; call 866-505-7173 (US) or 847-763-9504 (outside US); or visit asumag.com.

POSTMASTER: Send address changes to *AS&U*, P.O. Box 2100, Skokie, IL 60076-7800 USA.

REPRINTS: To purchase quality custom reprints or e-prints of articles appearing in this publication, contact Penton Reprints at 888-858-8851 (www.pentonreprints.com). Instant reprints and permissions may be purchased directly from our website (www.asumag.com); look for the iCopyright tag appended to the end of each article.

PHOTOCOPIES: Authorization to photocopy articles for internal corporate, personal or instructional use may be obtained from the Copyright Clearance Center (CCC) at 978-750-8400. Obtain further information at copyright.com.

ARCHIVES AND MICROFORM: This magazine is available for research and retrieval of selected archived articles from leading electronic databases and online search services, including Factiva, LexisNexis and Proquest. For microform availability, contact National Archive Publishing Company at 800-521-0600 or 734-761-4700, or search the Serials in Microform listings at napubco.com.

PRIVACY POLICY: Your privacy is a priority to us. For a detailed policy statement about privacy and information dissemination practices related to Penton Media products, please visit our website at penton.com.

CORPORATE OFFICE: Penton Media Inc., 249 W. 17th St., New York, NY 10011; penton.com

COPYRIGHT 2009
Penton Media Inc.
ALL RIGHTS RESERVED.



AS&U TOP 10 PRODUCTS OF 2008

Got Recycled?

Introducing 100% post-consumer recycled material for lockers and partitions.

Bradley now offers solid plastic lockers and partitions made from recycled milk jugs. Not only does the material provide superior performance, but each locker and partition saves hundreds of milk jugs from landfills.

Bradley
Commercial Washroom Innovation

Plumbing fixtures • Washroom accessories • Lenox® lockers • Mills® partitions

bradleycorp.com   800.BRADLEY

Circle 105 for more information ■ freeproductinfo.net/asu

INSIDE: FOOD SERVICE/NUTRITION

MORE STUDENTS IN FEDERAL LUNCH PROGRAM

The number of students taking part this school year in free and reduced school lunch programs has increased by 425,000, the School Nutrition Association says.

A December 2008 report, *Saved by the Lunch Bell: As Economy Sinks, School Nutrition Program Participation Rises*, attributes the rise in participation to high unemployment rates and families' efforts to save money.

The survey of more than 130 school nutrition directors from 38 states found that 79 percent of districts reported an increase in the number of free lunches served, and nearly 65 percent reported an increase in the number of reduced-price lunches served, compared with last year. At the same time, 48 percent of the districts surveyed reported a decrease in the number of students paying full price for school lunch.

"This year, when hunger is more common, more students are able to eat a balanced, nutritious meal at school," says Katie Wilson, president of the association.



TRAYLESS DINING CUTS WASTE, CONSERVES RESOURCES

Food waste is reduced by 25 to 30 percent per person when colleges and universities stop using trays in their dining halls. That's the conclusion of a study of trayless dining conducted in 2008 by Aramark Higher Education.

The study measured food waste from 186,000 meals served at 25 institutions during the 2008 school year. On days that trays were not used, the schools generated 11,505 fewer pounds of waste—1.2 ounces to 1.8 ounces per person per meal.

The findings also indicated that to wash a tray, the colleges and universities typically used one-third to one-half gallon of water. Eliminating the trays reduces water consumption.

Despite the benefits gained from eliminating trays, the study noted that many campuses are reluctant to do it. "They believe customers would be inconvenienced, complaints would increase, and the administration would be criticized," the report says.

However, a survey of more than 92,000 students, faculty and staff at 300 institutions found that 79 percent would accept the elimination of trays.

SOFT DRINK CALORIE INTAKE DROPS IN SCHOOLS

Beverage companies have reduced shipments of full-calorie soft drinks to schools by 65 percent, the American Beverage Association says.

The reduction has resulted from guidelines created in 2006 through collaboration with the Alliance for a Healthier Generation—a joint initiative of the William J. Clinton Foundation and the American Heart Association—and U.S. beverage companies. The guidelines call on schools to provide lower-calorie, smaller-portion options in schools, including the removal of full-calorie soft drinks.

Overall, the association reports a 58 percent decrease in total beverage calories shipped to schools between 2004 and the 2007-08 school year.

"There has been a shift in schools toward lower-calorie and higher nutrient beverages, including waters, 100 percent juices, and portion-controlled sports drinks," the association says in a progress report from September 2008. ■

CHANGING BEVERAGE PATTERNS IN HIGH SCHOOL

Type	2004	2006-07	2007-08
Full-calorie carbonated soft drink	46.9%	32.1%	26.5%
Diet carbonated soft drink	7.3%	7.2%	8.1%
Water	11.5%	21.5%	26.2%
Regular sports drink	12.8%	18.7%	20.3%
Juice drink	14.3%	9.9%	8.7%
100% juice	2.6%	2.8%	2.6%
Tea	4.2%	4.7%	4.8%
Other non-carbonated soft drink	0.3%	3.1%	2.8%

Source: American Beverage Association, "School Beverage Guidelines Progress Report, 2007-08"

Green Cleaning Official Sponsor
healthy schools campaign
Team Member

U.S. GREEN BUILDING COUNCIL USGBC

CRI GREEN LABEL™
carpet-rug.org



DuraLux models SC9150 and SC9180 meet LEED requirements

Tough Solutions for **Tough** Times.

Now save up to $50 on one of the most powerful, versatile and durable vacuum cleaners available: The DuraLux® by Sanitaire

It's no secret that we are going through some fairly tough economic times these days. At Sanitaire, we understand the tight budgets our customers are dealing with. That's why for a very limited time we are offering $25 and $50 rebates on the purchase of our top performing, dual motor workhorse: the DuraLux upright vacuum cleaner.

This special offer assures that you save money now and long term. That's because the DuraLux has multiple features that save maintenance time and money on the job—like a quick change power cord, extra large quick-change dust bag, automotive-style poly V-belt drive and a sealed HEPA system with washable filter which captures 99.97 percent of allergens and pollen down to 0.3 microns.

Both DuraLux models SC9150 and SC9180 are CRI Green Label approved, produce a Db rating of only 67Db and meet all equipment requirements set by LEED guidelines.

And of course, DuraLux is a Sanitaire brand, which was recently rated first in quality, value and ease of maintenance. Each Sanitaire product is backed by a network of more than 1,500 warranty service centers throughout the United States.

So you can be even more confident that your best value is also the best long term solution to your cleaning needs. But hurry, this offer ends March 31, 2009.

©2009 Electrolux Home Care Products, Ltd.

Circle 106 for more information ■ freeproductinfo.net/asu

Sanitaire®
by
Electrolux

Save up to $50 on DuraLux Uprights

$25 Rebate on Sanitaire® DuraLux Vacuums.
Models: SC9150.

$50 Rebate on Sanitaire® Duralux Vacuum.
Models: SC9180.



This offer is good on qualifying Sanitaire commercial products purchased on Sunday, February 1, 2009 through Tuesday, March 31, 2009. All submissions must be postmarked by Thursday, April 30, 2009 (Late submissions will not be honored). To receive your rebate, send a copy of your receipt(s) showing model purchased, purchase date, and name of dealer where purchased along with this completed certificate. Allow 10 to 12 weeks for processing. **Rebate applies to qualifying end users only (no dealers or distributors).** Multiple receipts may be submitted in same envelope. This offer is void where prohibited by law. This certificate has no cash value. Sanitaire is not responsible for lost, late, illegible, incomplete, damaged, misdirected, or postage-due requests/mail.

MAIL TO:
Sanitaire Redemption Center
Dept. # 29003
P.O. Box 438
St. Joseph, MI 49085
1-800-430-3273

Please print clearly

Name ____________________

Street ____________________

City ____________________

State ____________________ Zip ____________________

Phone Number ____________________

CONSTRUCTION ZONE

NEW CONSTRUCTION

Career education

The $33 million Career and Technical Education (CTE) Center in the Frisco Independent School District, Frisco, Texas, is a 125,618-square-foot facility that merges real-world professional environments with educational programs for college- and career-bound 11th- and 12th-grade students.

The contemporary, two-story structure features a masonry exterior with composite metal and zinc accent panels. Interior finishes include exposed structural systems of steel and wood. It can accommodate 970 students.

The CTE Center offers a full-service restaurant, credit union and bank, a courtroom for mock trials, TV and radio studios, computer and animation labs, an architecture lab, marketing and media centers, medical and veterinary-science labs, a warehouse, copy center and mailroom.

A 4,000-square-foot greenhouse was constructed to support the horticulture curriculum. In addition, the CTE Center houses technology laboratories, administrative areas, a testing center, an employee training area and a variety of classrooms.

The architect is SHW Group (Dallas).



Frisco Independent School District, Career and Technical Education Center, Frisco, Texas.
Photo courtesy of Hester + Hardaway Photographers



Penn State, University Park campus, Student Health Center, State College, Pa.
Photo courtesy of RMJM

On-campus healthcare

The student health center at the University Park campus of Penn State, State College, Pa., welcomes students with expanded facilities and a strong focus on wellness.

Situated in a prominent place on campus between student residence halls, the health center features floor-to-ceiling windows that allow for natural light in the lobby and waiting areas, and an art gallery. Students can stop in and use a laptop or hang out in a lounge-like setting, while being informally introduced to health-related resources such as online appointment setup, a full-service pharmacy, health-education resource library and seminar conferencing area.

Treatment and counseling space are separate zones that reiterate the center's commitment to privacy. The center features dedicated spaces for group therapy, relaxation and meditation, waiting rooms, 60 exam rooms and a color-coded wayfinding system to the waiting areas.

The health center also has several sustainable features. Its green roof will help absorb water runoff, and reduce heating and cooling costs.

The architect is RMJM (Philadelphia).

Start: Fall 2006
Completion: Fall 2008
Project area: 64,000 sq. ft.
Cost: $26 million

ENERGY SAVINGS

Glazed areas in walls and roofs are the single largest source of wasted energy! Kalwall eliminates waste. Whether for retrofit or new construction – there is no other light-transmitting material that is so highly insulating… permanently.



***BEFORE…** aging school windows are high maintanence, inefficient and undesirable.*



***DURING…** installation can even take place with classes in session. Factory pre-assembled.*

SUPER-INSULATING, LIGHT-TRANSMITTING material that *slashes* energy loss.



***AFTER…** The HVAC payback is rapid. A revitalized school is a better and healthier place to learn.*

Glass vs. Kalwall

It's clear to see: Kalwall outperforms glass with energy savings that deliver a rapid payback and create a better place to learn. Healthy, glare-free daylight.

Kalwall U-value Examples	Savings by Kalwall vs. Single Glass "U" = 1.10	Savings by Kalwall vs. Double Glass "U" = 0.50
0.29 (R-3)	73%	47%
0.23 (R-4)	79%	58%
0.14 (R-7)	87%	74%
0.10 (R-10)	91%	82%

- HVAC and electric light savings year-round
- Vastly improves insulation qualities
- U-values as low as .05 (R-20)
- Controls condensation • Glare-free daylight
- Safety & security • Shatterproof
- Vandal-resistant • LEED® • Green

ENERGY STAR PARTNER

Since 1955

Kalwall®

...Light-Years Ahead!™

kalwall.com daylightmodeling.com skylightinfo.com

Kalwall Corporation, PO Box 237, Manchester, NH 03105 • **800-258-9777** (N. America)

Circle 107 for more information ■ freeproductinfo.net/asu

Against all odds

Edward R. Roybal Learning Center in the Los Angeles Unified School District opened last fall. Unlike typical education construction projects, this school has been in the making for 23 years. The school's original construction was halted in 1999 after the discovery of underground methane gases and again in 2002 after the discovery of a seismic fault line. Since a new architect took over the project in 2003, it has transformed into a learning environment that will serve the community well into the future.

Set on a 25-acre campus in downtown Los Angeles, the school can serve up to 2,800 students in grades 9 to 12. The project includes about 100,000 square feet of new construction, including a 500-seat classroom building or shared-learning facility, library, auditorium, music and drama classrooms, and food services. About 72,808 square feet of classrooms and 299,584 square feet of gym and parking space were renovated in the existing buildings, which were converted into six 500-seat academies. Two unfinished structures were demolished, an earthquake fault setback was established, and a complex between-slab methane ventilation system was integrated. In addition, outdoor courtyards and an adjacent 10-acre community park were added.

The architect is WWCOT (Santa Monica, Calif.).



Los Angeles Unified School District, Edward R. Roybal Learning Center, Los Angeles. Photo courtesy of Magnus Stark Photography



Saint Joseph University, parking garage, Philadelphia. Photo courtesy of High Concrete Group

Garage as gateway

Saint Joseph University, Philadelphia, embraces its new six-story parking garage as a gateway to the campus.

Stone features and wood infill lend richness to the storefronts on the front side of the building, including the university bookstore, a coffee shop and a restaurant. An arcade on one end leads to an elevator lobby, creating a welcoming space, and a glass stair tower increases safety.

The facade is finished in thin brick, and expressive grillwork on the front terminates in a horizontal precast spandrel. On the top, metal trim forms nested lancets.

The architect is Burt Hill (Philadelphia).

Finished fast

Willow Grove Elementary School, San Diego, was completed in half the estimated construction time of 15 months, saving about $500,000 in interim housing costs. The 63,500-square-foot, $26.7 million school can accommodate 750 students.

The school houses 30 classrooms in five buildings. It contains a multipurpose center, kitchen, library and administrative building. The site also houses preschool and kindergarten facilities, playgrounds, athletic courts and a synthetic turf sports field.

Sustainable features include native drought-tolerant plants used in landscaping; an energy-management system with individual thermal zones, dual light switches and occupancy sensors; restrooms with waterless urinals and dual-flush toilets; and a high-efficiency irrigation system.

The architect is NTD Architecture (San Diego). Echo Pacific Construction, Inc., (Escondido, Calif.) is the general contractor. ■



Willow Grove Elementary School, San Diego. Photo courtesy of Zack Benson

Acoustics

Some schools use amplification to boost a teacher's voice, but acoustics advocates say such systems should be a last resort.



Think back to your teen-age years. You're trying to listen to your new Aerosmith record, but it's hard to hear because your sister is yapping on the phone. The easiest solution? Crank up the stereo volume.

Education institutions use a similar rationale when they install amplification systems in classrooms. In cases where noise from outside the classroom can't be controlled, or where a teacher's voice does not project sufficiently throughout the learning space, schools may opt to use a voice-amplification system.

An instructor is miked for sound, and the increased decibels of the teacher's words being broadcast to students results in a better voice-to-background noise ratio.

But advocates of good classroom acoustics say pumping up the volume is hardly the ideal solution. The teenager turning up the sound on his stereo may be able to hear his music and drown out other noise, but the overall effect is likely to prompt an irritated parent to tell the teen to quit making such a racket. Likewise, the added noise from an amplified voice might make listening uncomfortable for some students.

The position of the Acoustical Society of America (ASA) is that sound amplification should not be used routinely in typical, small mainstream classrooms.

"Sound amplification increases rather than decreases overall sound levels," the ASA says. "Also, unless classroom walls, ceilings and floors are acoustically upgraded to improve their sound insulation, amplified sound may be heard in adjacent classrooms, interfering with learning there."

A 2007 guide produced by the New Zealand Ministry of Education on acoustics in learning spaces lists the pros and cons of systems that amplify a teacher's voice:

•**Advantages:** signal-to-sound ratios are improved at the flick of a switch; the teacher can be heard from anywhere in the room; the teacher's voice is less stressed; and students' on-task behavior and comprehension may be improved.

•**Disadvantages:** the systems are expensive to install; they need regular maintenance; sound levels must be set correctly to be effective; some teachers don't like them and may not use them; the long-term effects on the development of students' listening skills are, as yet, unknown; and they only assist teacher-to-student communication and are not useful in student-to-teacher or student-to-student communication.

Before resorting to amplification, the ASA states, education institutions should design new or renovated classrooms to conform with the acoustics standards developed by the American National Standards Institute. Those standards state that the maximum background noise in an unoccupied classroom should be 35 decibels.

"Background sound levels of 35 decibels or less ensure the 15-decibel signal-to-noise ratio needed for effective learning," the ASA says.

The New Zealand guide agrees that amplification systems should be a last resort.

"Teacher's voice-amplification systems … are not a substitute for good acoustical design and should be used only when all other options have failed," the guide recommends. ■

–Mike Kennedy

NOTABLE

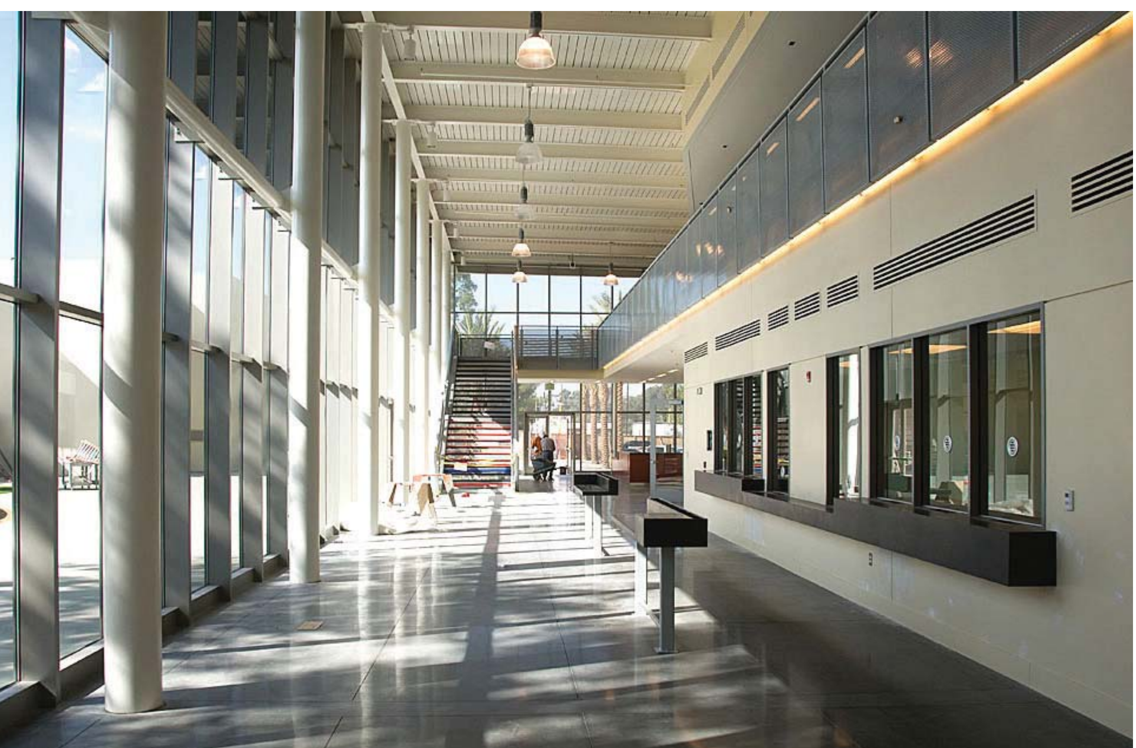
35 In decibels, the recommended maximum background noise level in an unoccupied classroom.

15 In decibels, the recommended signal-to-noise ratio needed in a classroom to allow for effective learning.

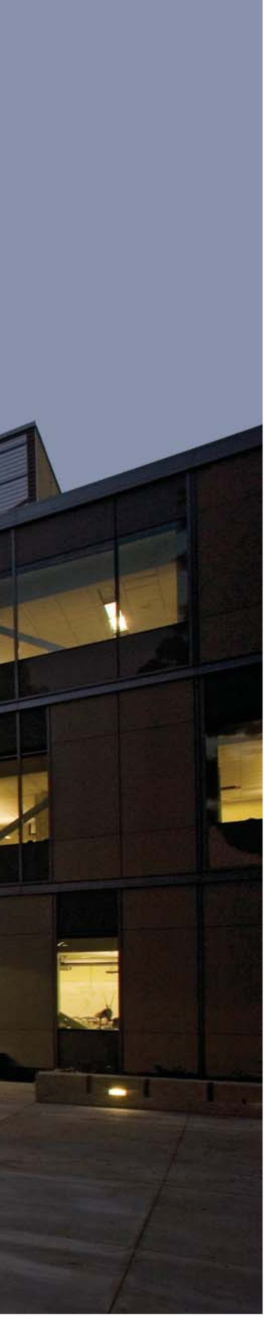
Source: Acoustical Society of America

GREEN
As The New Norm









More schools and universities are embracing environmentally sensitive practices as they build and renovate facilities.

BY MIKE KENNEDY

Before architect Chris Waltz moved overseas in 2004, sustainable building design "was just a little cult topic," he recalls. But when he returned to the United States three years later, it was clear that things had changed.

"All of a sudden, I couldn't turn around without hearing about it," says Waltz, a senior associate at Steffian Bradley Architects. "Everyone knew what LEED was—I used to have to spend a lot of time explaining to clients what that was."

The numbers back up Waltz's assertion. Lured by the recognition that comes with a Leadership in Energy and Environmental Design (LEED) rating from the U.S. Green Building Council, many schools and universities have become aware of that certification process. But for years, the involvement was limited to a few trendsetters; according to the Green Building Council's database, only about 120 K-12 school facilities have received LEED certification since 2001. But as of January 2009, the list of K-12 education construction projects that have applied for LEED certification has swelled to more than 1,000.

"It's clear that the interest in green design is building," says Larry Eisenberg, executive director of facilities, planning and development for the Los Angeles County Community College District. "A tidal wave is forming and it will crest soon."

With a new administration in place in Washington that openly acknowledges the need to reduce global warming and the benefits of more healthful and energy-efficient practices in building and operating facilities, the green movement will continue to evolve from a rare and unconventional approach into a routine and accepted way of doing business.

Trailblazing in L.A.

Many college campuses have taken great strides to make their campuses more energy efficient and environmentally friendly, but one of the trendsetters in the green movement might seem unlikely. With more than $5.7 billion available in bond proceeds, the Los Angeles Community College District bills its construction program as one of the largest public sector green building efforts in the United States.

"When people find out what we've been doing, they're completely blown away," says Eisenberg. "They say, 'Oh my gosh, you're a community college. This is MIT-type stuff.'"

Continued...

The Allied Health & Science Center at L.A. Valley College has solar panels that generate 10 percent of the building's power. Photos courtesy of FTR International/Greg Epstein





Just as important as creating sustainable buildings is making sure they stay green when students and staff begin using the facility.

The community college district's commitment to green design and construction has its roots around 2001 when it was preparing to put a $1.25 billion bond proposal on the ballot. Environmental and community activists lobbied the district to incorporate sustainable design practices into the projects it was planning.

"They said, 'you could really set an example here,'" says Eisenberg. "The idea resonated and led in 2002 to our sustainable building policy."

The policy mandates that all new buildings funded with at least 50 percent bond dollars should meet LEED standards.

How did the community college district become a flagship for green design and construction?

"It's a unique confluence of factors," Eisenberg says. "We have staff commitment, money, a supportive board and the will to do it."

Voters approved the $1.25 billion bond proposal in 2001, a $980 million package in 2003, and, despite the ailing economy, a $3.5 billion request in 2008.

The poor economy has some benefits for the district, which has about 188,000 students. "It's countercyclical," says Eisenberg. "We get our best enrollment in down economic times. And for construction, prices are down, and we are getting great bids."

The green approaches on the community college system's nine campuses range from long-accepted environmental efforts, such as energy-efficient climate control systems, daylighting strategies and wind power, to more innovative and unfamiliar products, such as a coating known as UV-PCO (Ultra-Violet Photocatalytic Oxidation). The coating contains a chemical that, when it comes into contact with sunlight or fluorescent light, reacts and forms cleansing agents that make the facility virtually self-cleaning, Eisenberg says. The district applied the coating to the Child Care Facility at Los Angeles Southwest College.

"It's been a year now, and it looks as good as it did on day one," says Eisenberg. "We've never cleaned the walls or washed the windows. We're going to put it on all 455 buildings."

Even more familiar techniques,

Ready for change

Change was the mantra that fueled Barack Obama's successful presidential campaign, and leaders in the nation's sustainability movement are working to make sure that more environmentally friendly governmental policies become an integral part of the Obama administration.

To that end, a coalition of more than two dozen environmental and conservation groups have put together "Transition to Green," a 391-page document prepared for President Barack Obama's transition team. It spells out environmental recommendations that the organization wants the Obama administration to pursue.

The new administration is likely to give the environmental groups' recommendations a friendlier response than the previous administration. As he introduced his energy team prior to his inauguration, Obama promised, "We will make public buildings more efficient, modernize our electric grid, reduce greenhouse gas emissions, and protect and preserve our natural resources."

The groups' recommendations include nothing less than an overhaul of the U.S. education system so the nation can make a transition to a green economy. The environmental groups want "to retool our nation's universities and colleges as centers of research, education and workforce training in green economy-related fields." They also want to restructure K-12 education "by bolstering environmental education and STEM (science, technology, engineering and math) education." One proposal to boost environmental education is the No Child Left Inside Act, which would provide grants for K-12 environmental education programs. The coalition is seeking $100 million for the proposal.

With regard to school facilities, the report urges the president to "unveil a new national Green Schools goal to promote green design in new school construction and rehabilitation projects."

The report encourages the U.S. Department of Education to endorse a national goal that "100 percent of newly constructed or rehabilitated schools become 'Green Schools' to lower energy costs and greenhouse gas emissions." Specifically, the coalition urges the Obama administration to support the 21st Century High-Performing Public School Facilities Act. The U.S. House passed the bill last year, but the Senate did not take action. The bill would provide $20 billion in funding for school construction over five years and would require that the majority of the funds be used on projects that meet green design standards.

The group also wants the Obama administration to fully fund the Energy Sustainability and Efficiency Grants and Loans program, which provides funds for renewable-energy and energy-efficiency projects at higher education institutions, public schools and local governments. The report says the funding request is $250 million for the grants program and $500 million for the loan program.



The National School Plant Management Association is presenting the 14th Annual Conference and Trade Show at the Trump Taj Mahal in Atlantic City, New Jersey, April 5-9, 2009.

Conference workshops include: Energy Conservation, Gangs in Schools, Guns in Schools, Facility Managers and Certifications, Buildings and Transportation, Green Carpeting, Building Energy Efficient Schools and Renewable products, plus many, many more.

Vendor exhibits will be open two days with 150 vendors.

The banquet will be held Wednesday night with Special Guests performing. A silent auction to benefit the NSPMA Scholarship Trust will be held in conjunction with the banquet.

The spouse program will be held April 7-8, 2009 with trips to Historic Cape May, The Physick Estate Museum, Wheaton Arts and Cultural Center and Historic Smithville.

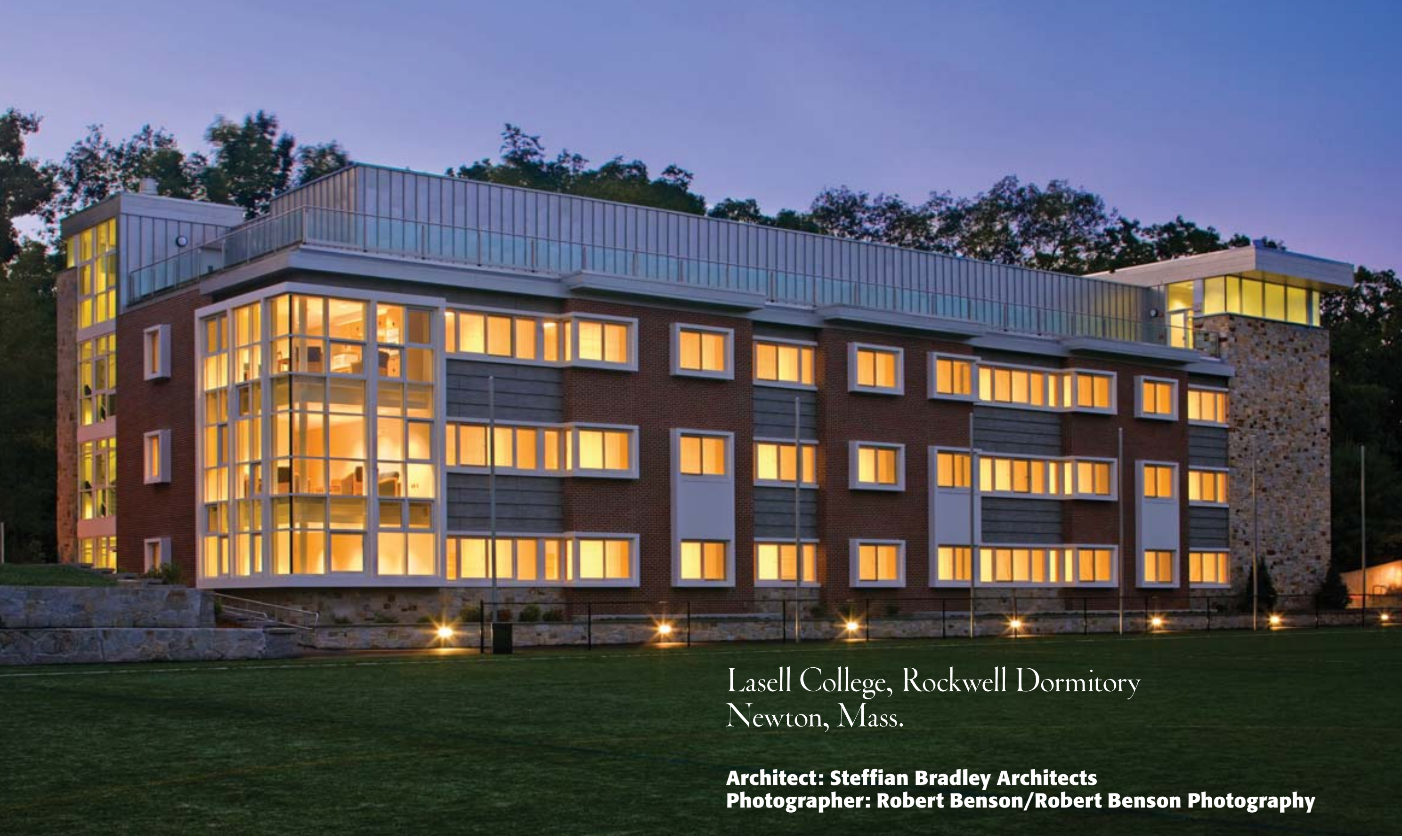
National School Plant Management Association
Chartered 1995

For more information contact:

NSPMA.org

John Noel, Conference Planner
3213 Marston Place
Lexington, KY 40503
nspm@windstream.net
877-833-0610

Don't delay, register today at NSPMA.org



Lasell College, Rockwell Dormitory
Newton, Mass.

Architect: Steffian Bradley Architects
Photographer: Robert Benson/Robert Benson Photography

such as solar power, are being carried out on such a massive scale that it's hard to ignore the district's green efforts.

At East Los Angeles College, the district has installed a 1.2 megawatt solar farm. It consists of nearly 6,000 solar panels that are installed above carports that provide parking for 530 cars. Eisenberg says the panels save the college $400,000 in energy costs. The panels provide other benefits, too.

"One student was asked what she thought about the panels, and she said, 'Wow, I like the shaded parking,'" Eisenberg says.

As green initiatives are becoming more commonplace, Eisenberg says the system's goal is to stay at the forefront of the green movement.

"Our goal is to get to the zero-energy standard and demonstrate to others that it's possible," says Eisenberg. "We want to take it to the next stage."

Beware of greenwashing

The term green can mean different things to different people in the construction business and the educa-

From the frying pan into the ... gas tank?

Students and staff at Dickinson College in Carlisle, Pa., might not have to feel so guilty about eating fried foods.

Deep frying still is considered less healthful than other ways of preparing food, but at least the oil used to prepare such fat-soaked menu items at campus kitchens is not contributing to the waste stream.

Instead of discarding the cooking oil, the school's food-service operation turns the liquid over to The Dickinson College Biodiesel Project, begun by students in 2006. The project's website says that students collect oil—between 50 and 150 gallons a week—that is used in fryers on campus, as well as at area restaurants. They bring the oil to a biodiesel plant that has been set up in the college's facilities management building and, under the supervision of staff members, converts it to biodiesel.

Campus personnel use the biodiesel fuel to power lawn mowers, garbage trucks, farm equipment and other diesel engines. The U.S. Environmental Agency says that most diesel engines can run on biodiesel without needing any special equipment. Reusing the oil instead of disposing of it reduces Dickinson's carbon footprint, and operating equipment with cleaner-burning biodiesel means the college is releasing fewer pollutants into the atmosphere. Dickinson says production and use of biodiesel results in an 80 percent lifecycle reduction of carbon dioxide emissions when compared with fossil fuels.

Students involved in the Biodiesel Project also are researching sustainable ways of using the glycerol that is created as a byproduct of the biodiesel conversion. The glycerol can be used to create soap—either solid or liquid, depending on what chemicals are used in the biodiesel conversion. The liquid version has been marketed on the Dickinson campus as "Green Devil Bio-Suds."

"Several personnel from the college facilities management department use the soap for personal body care and report it is most effective as a hand cleaner following greasy, dirty work," the college says.

SPECIAL INVITATION

For *American School & University* Subscribers

BUILDING OPERATING MANAGEMENT'S

NFMT

National Facilities Management & Technology

March 10-12, 2009 • Baltimore Convention Center



THE learning event for all facility professionals

- More than 100 educational sessions
- Exhibit hall with 500 top suppliers
- Networking parties and events

"One of the best shows going."
Craig Borkman, Project Manager,
Virginia Beach City Public Schools

"The best all around show in the country."
Doug Kettel, Superintendent of Facility Services,
Schaumburg Park District

"Great educational sessions.
Great exhibit hall. Loved them both."
Stephen Kolb,Project Manager,
Townson University

"Best FM show in the USA and
at an unbeatable price."
Richard G. Lubinski, President,
Think Energy Management LLC

A $1095 VALUE

Yours for FREE

Accept your invitation online
www.nfmt.com
Or call FREE 1-800-727-7995 ext. 339
Your Priority Code is AJ9



Emerson College's Colonial Residence Hall, Boston, is under construction and targeted to receive LEED silver certification. (Architect: Steffian Bradley Architects)

tion industry. The familiar song says "it's not easy being green," but as the desire for sustainable design and construction grows, it is easy for schools and vendors to *say* that they're green. Facility managers always have had to be on the lookout for bidders and vendors who promise more than they can deliver. Because many of the benefits of green design and construction accrue over the life of a facility, it is especially important that the environmental and energy benefits are more than empty promises.

The term coined for being green in name only is greenwashing. In general, it describes businesses that embrace the green banner for marketing or public-relations purposes without necessarily following through with policies and practices that benefit the environment.

In a 2007 "green paper," TerraChoice Environmental Marketing identified six sins of greenwashing:

•**Hidden tradeoff**—Suggesting a product is green based on a single environmental attribute or an unreasonably narrow set of attributes without attention to other important environmental issues.

•**No proof**—Any environmental claim that cannot be substantiated by easily accessible supporting information, or by a reliable third-party certification.

•**Vagueness**—A claim that is so poorly defined or broad that its real meaning is likely to be misunderstood.

•**Irrelevance**—Making an environmental claim that may be truthful, but is unimportant and unhelpful.

•**Lesser of two evils**—Claims that may be true within a product category, but that may distract a consumer from greater environmental harm (e.g., "green" insecticides).

•**Fibbing**—Making environmental claims that simply are false.

School and university administrators should become well-versed in green design and construction so they can avoid becoming victims of greenwashing, Waltz says.

"I would recommend that the head of facilities go and get LEED-accredited," says Waltz, "so they understand the basic principles of sustainability and won't get hoodwinked by vendors claiming to offer green products and services."

Waltz also says the demand for green design and construction has led to more education design firms developing an expertise about sustainability.

"When there is competition among a lot of architects, you're more likely to find someone with experience and knowledge about sustainability," says Waltz.

To LEED or not to LEED

Although other green rating programs exist for school facilities, such as the Collaborative for High Performance Schools Criteria and Green Building Initiatives' Green Globes program, the LEED certification process has become the best-known way for education institutions and other builders to receive third-party acknowledgment that their facilities have met standards of environmental friendliness.

Some education institutions covet the recognition that comes with LEED certification, but others have opted not to pursue LEED or other green certification because of the paperwork or cost involved in completing the process.

"I'm a little ambivalent about LEED," says Waltz, a LEED-accredit-

ed architect. "Some people consider it the be-all and the end-all, but that's not necessarily the case. The school or university has to know what it wants. It's a lot of paperwork, and it costs maybe $1,500 per point. Instead of using resources putting together the documentation for a LEED certification, they might decide to put that money into the project.

The third-party verification that is part of LEED can be helpful in persuading skeptical students or other stakeholders that the promised environmental benefits in a green project are real. Another benefit of the LEED point system, Waltz says, is that it has prompted more vendors to get into the green business and offer products and services, such as wood certified by the Forest Stewardship Council, that help builders meet LEED criteria.

"In the early years of LEED, it was difficult to find certain products, like FSC-certified wood, that would enable you to meet LEED standards," says Waltz. "Now those are a lot easier to find."

Eisenberg says he views LEED as a necessary part of the evolution that is making green principles and strategies a normal and expected element of design and construction.

"For right now, it helps to create a standard for measurement: goals and guidelines," says Eisenberg. "What's important is to build buildings that are sustainable, in whatever packaging it comes in."

Just as important as creating sustainable buildings is making sure they stay green when students and staff begin using the facility.

"Building the facility is step one," says Waltz. "Then they have to operate it. Many times an architect will never find out what happens after the ribbon is cut—how well buildings work or how poorly they work."

That's when commissioning is needed—checking that the building is functioning as promised after it is completed.

"Commissioning is a massive, massive thing," says Waltz. "You can tweak the things that aren't working. Maybe the occupancy is higher than what was estimated, and that is throwing off the heating system. That can be adjusted through commissioning." ■

Kennedy, staff writer, can be reached at mkennedy@asumag.com.

WEB 101

Have a comment on this article? Visit the current issue at ASUmag.com and make your comment at the end of the article.



Circle 108 for more information ■ freeproductinfo.net/asu



New Richmond (Wis.) School District evaluated rolled carpet vs. carpet tiles for the new Hillside Elementary School media center. Because traffic patterns vary, and book shelving and furniture are ever-changeable in the space, the decision to use carpet tiles was based on ease and flexibility of replacement, initial cost and long-term maintenance. Photo courtesy of Rick Peters

Walk the Walk

Flooring choices for new and retrofit education facilities impact learning environments and affect student learning.

By Paul W. Erickson

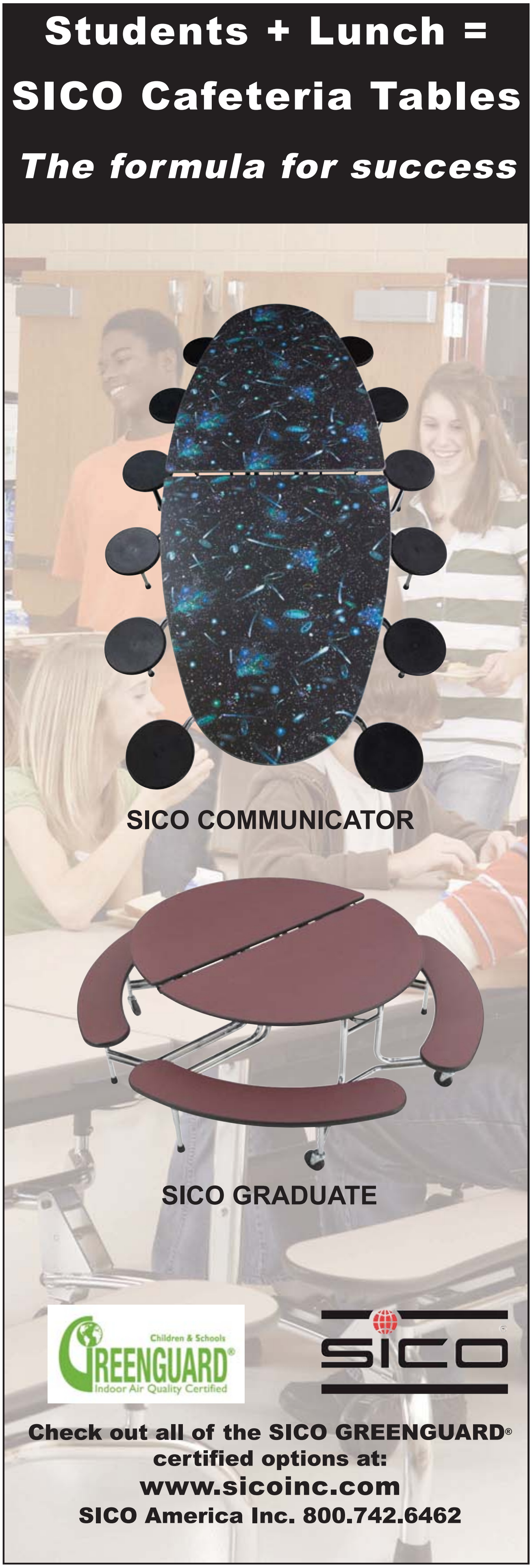
For new and retrofit projects, which types of flooring work best in education facilities? Opinions vary among facilities specialists. Also, user groups—teachers, students, principals and parents—have preferences. So, education institutions must do research to determine appropriate flooring for various spaces. Touring facilities and talking to design professionals, building users and manufacturers are effective ways to make informed decisions.

Criteria and types

Schools and universities should select flooring that:

- Extends usable life expectancy.
- Prevents mold and mildew.
- Controls dust and particulates.


The Mohawk Group
MISSING
AN EASY WAY TO BE ECO-FRIENDLY
If your effort to be eco-friendly has you buried in figures, there is a simple solution.
Introducing our LEED® Plus Calculator, an easy to use online tool to help you source, calculate and document eco-attributes for your Green Building projects.
IT'S HERE
FIND YOUR ECO-SOLUTION AT THEMOHAWKGROUP.COM/LPC
KARASTAN
LEES
Bigelow
DURKAN
800 554 6637 | themohawkgroup.com
Powered by ecoScorecard
Circle 109 for more information ■ freeproductinfo.net/asu



Circle 110 for more information ■ freeproductinfo.net/asu

•Eliminates volatile organic compounds (VOCs).
•Provides noise control and comfort.
•Augments daylighting.
•Minimizes initial and long-term costs.
•Enhances educational delivery.
•Provides increased flexibility of space usage.
•Achieves desired aesthetics.
•Responds to the environment.

Many choices exist; the flooring discussion goes beyond "vinyl tile vs. carpet." Other types:

•Resilient flooring.
•Vinyl composition tile (VCT).
•Vinyl (sheet/plank/tile).
•Linoleum.
•Rubber tile (recycled/vulcanized).
•Quartz vinyl tile.
•Bio-based tile.
•Variable cushioned tufted tile (VCTT).
•Hard flooring.
•Terrazzo (epoxy/thickset/tile).
•Concrete (polished/ground).
•Epoxy quartz tile.
•Glass tile.
•Quarry tile.
•Porcelain tile.
•Ceramic tile.
•Wood (floating/glue-down).
•Bamboo.
•Cork.
•Soft flooring.
•Carpet (rolled/tile).

The best decisions

How do schools choose wisely? Consider budget, aesthetics, space purpose, durability and environmental impact. It is vital that the decisions take into account space function, traffic patterns/loads, occupants and tasks performed, and special requirements such as acoustics, hygiene, safety/slip resistance and static dissipation. Consider the environment. Be mindful of aesthetics in color and pattern choices. Evaluate product durability and appearance retention; resistance to scratching, gouging, staining, fading and shrinking; and repair/refinishing, maintenance and warranty choices.

Important considerations:

•**Choosing green.** Select products that support LEED (Leadership in Energy and Environmental Design) strategies. Steps emphasized in the LEED process include indoor air quality, origin of transportation, materials composition, manufacturing process, packaging, product life and end-of-life. Consider materials extraction; manufacturing (energy/water reduction and eliminating dangerous chemicals); construction (increased post-con-

Tandus
EXPECT INNOVATION



Tandus.
One Company. Many Solutions.

Powerbond – Moisture proof performance
Modular – Flexibility when needed
Broadloom – Away from the danger zones

Flooring is our Business. Working together with designers, facility managers, and educators we can create beautiful, safe environments where our children can thrive and learn.

tandus.com 800.248.2878

design • technology • sustainability

inunison

MONTEREY C&A CROSSLEY



This flexible team learning area at Sunrise River Elementary School, North Branch, Minn., has the softness and comfort of carpet tiles bordered by resilient flooring for circulation to the surrounding classrooms. Photo courtesy of Rick Peters

sumer recycled content); occupancy and maintenance; and demolition, disposal, reuse and recycling.

•**Thinking long-term.** An education institution's facilities team should develop standardized flooring specifications. Primary, secondary and post-secondary schools each have unique flooring requirements. List approved-equal products for competition, and limit proprietary conditions in the specifications. New products will emerge, so upgrade specifications periodically. However, grasping at the latest trends is not prudent in long-term planning. Consider initial and long-term costs when developing standardized specifications.

"We look at floor-maintenance costs, quality and how they last, especially in high-traffic areas," says Mike Condon, director of buildings and grounds for Minnetonka (Minn.) Public Schools. "It costs too much to replace short-term products. Long-range planning stretches our budget and gets the most life out of our floors. Upfront cost is a consideration, but minimizing life-cycle cost is much more important."

Condon also emphasizes the benefit to students, as well as the space function, its occupants and frequency of use.

"We focus on what works in the specific learning environment," he says. "Obtaining input and feedback from teachers, students, principals and maintenance personnel is an ongoing effort."

Appropriate choices

Which flooring types work best in which spaces? Evaluate flooring for each space, as one type does not fit all purposes, and expect tradeoffs in the process. For example, users of preschool learning spaces prefer carpeting for noise, comfort and safety control. However, there may be difficulties with cleaning, maintenance and allergies. In other situations, the choices are clearer.

The Carpet and Rug Institute (www.carpet-rug.org) emphasizes that inexpensive carpets cannot match performance and appearance retention of better grades. It encourages specifiers to establish budgets and challenge manufacturers to meet performance levels and lifetime cost objectives.

The National Terrazzo & Mosaic Association (www.masterterrazzo.com) compiles statistics for flooring products installation, maintenance and replacement costs. Schools facing increased pressure to reduce initial costs may seek savings by looking at finishes. The association emphasizes life-cycle cost analyses as a comprehensive approach for selecting flooring.

NOTABLE

90 to 95 Percentage of all dry soil weight that can be removed from carpeting by vacuuming with a routine schedule.

Source: www.carpet-rug.org

For any building, flooring decisions begin at the entrance. "Spaces adjacent to the exterior require flooring that permits removal of nature's elements," says Paul Minotti, director of facilities for Neshaminy School District in Langhorne, Pa. "It's the first line of defense for extending flooring life in a building. Vestibules should remove debris before it reaches the rest of the building. Removable floor grates or slotted mats over floor recesses are practical ways to capture unwanted particles."

High-traffic corridors and hallways require hard-surface floors. If initial budgets do not permit terrazzo, education institutions should consider cost adjustments in other categories. Porcelain tiles and resilient flooring are additional options. Carpet is not advisable for these high-traffic areas.

More schools and universities are using ground and polished concrete as a finished product. The process involves grinding and finishing the slab-on-grade or top-coat for a low-maintenance surface. Concerns with acoustics, ergonomic discomfort and aesthetics may be tradeoffs when considering this option.

Carpeting general learning spaces can improve acoustics, comfort and aesthetics. However, as indoor air quality issues became more prominent, longer-napped carpets have been replaced with VCT. Today, harder floor surfaces typically are installed in learning spaces, but com-

promise acoustics, comfort, maintenance and aesthetics. New choices and improvements include carpet and carpet tiles with impervious backing systems, tight fiber densities, and technical advances in soil and stain resistance. These are proving successful in preserving floor appearance, especially in learning spaces and moderate traffic areas.

Wet areas, including restrooms, locker rooms, shower areas, kitchens and pools, require hard, slip-resistant surfaces with low porosity. Ceramic tile with dark grout, terrazzo or epoxy quartz floors are good choices for restrooms. Shower floors and pool decks are best served by slip-resistant, smaller-squared ceramic tile or poured epoxy quartz, which can be installed easily on sloped floors. Smaller-squared ceramic tile is a good choice for pool basins. Quarry tile or epoxy quartz floors in kitchens provide quality, slip-resistant surfaces.

Family and consumer science (FACS) labs are well-served with solid-sheet flooring because spills are easy to clean. For heavy industrial-tech and art spaces, poured floors or sealed concrete are cost-effective. CADD labs, TV studios and other clean lab environments have many options.

Administration and student-services areas, especially with office cubicles, are conducive to carpet tiles. Replacing rolled carpet causes downtime at a high cost; carpet tiles provide easy replacement in heavy-traffic and furniture areas.

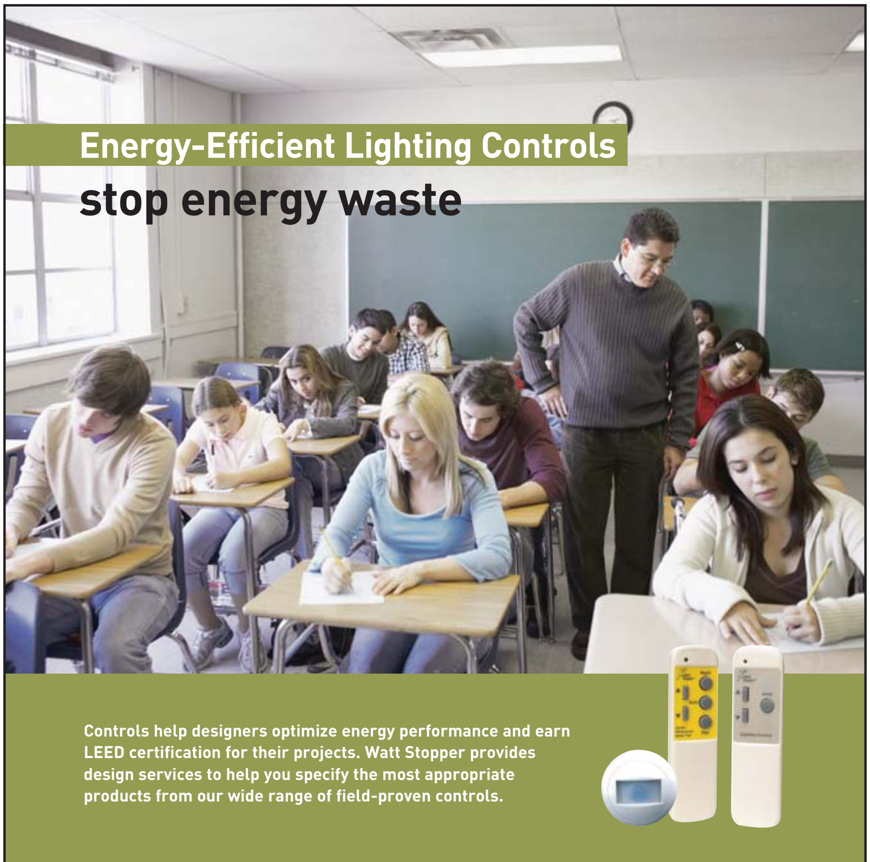
Installation and maintenance

Regardless of the floor selected, proper installation and maintenance are critical. Administrators should meet with a contractor before installation to make sure the architect's specifications are being followed. Specifications describe product data; the manufacturer's recommended installation; requirements for LEED certification; and product warranty obligations. They also stipulate contractor licensing, experience and performance bonding. After installation, schools and universities must provide initial, regular, periodic and restorative maintenance to preserve the product. ■

Erickson, AIA/NCARB/REFP, is president of ATS&R Planners/Architects/Engineers, Minneapolis, a firm specializing in pre-K to 12 school planning and design. He can be reached at perickson@atsr.com.

WEB 101

Need more flooring and carpeting tips? Visit the article archives at ASUmag.com.



Controls help designers optimize energy performance and earn LEED certification for their projects. Watt Stopper provides design services to help you specify the most appropriate products from our wide range of field-proven controls.

Watt Stopper/Legrand makes it easy to layer energy-saving lighting controls for sustainable designs that exceed code requirements.

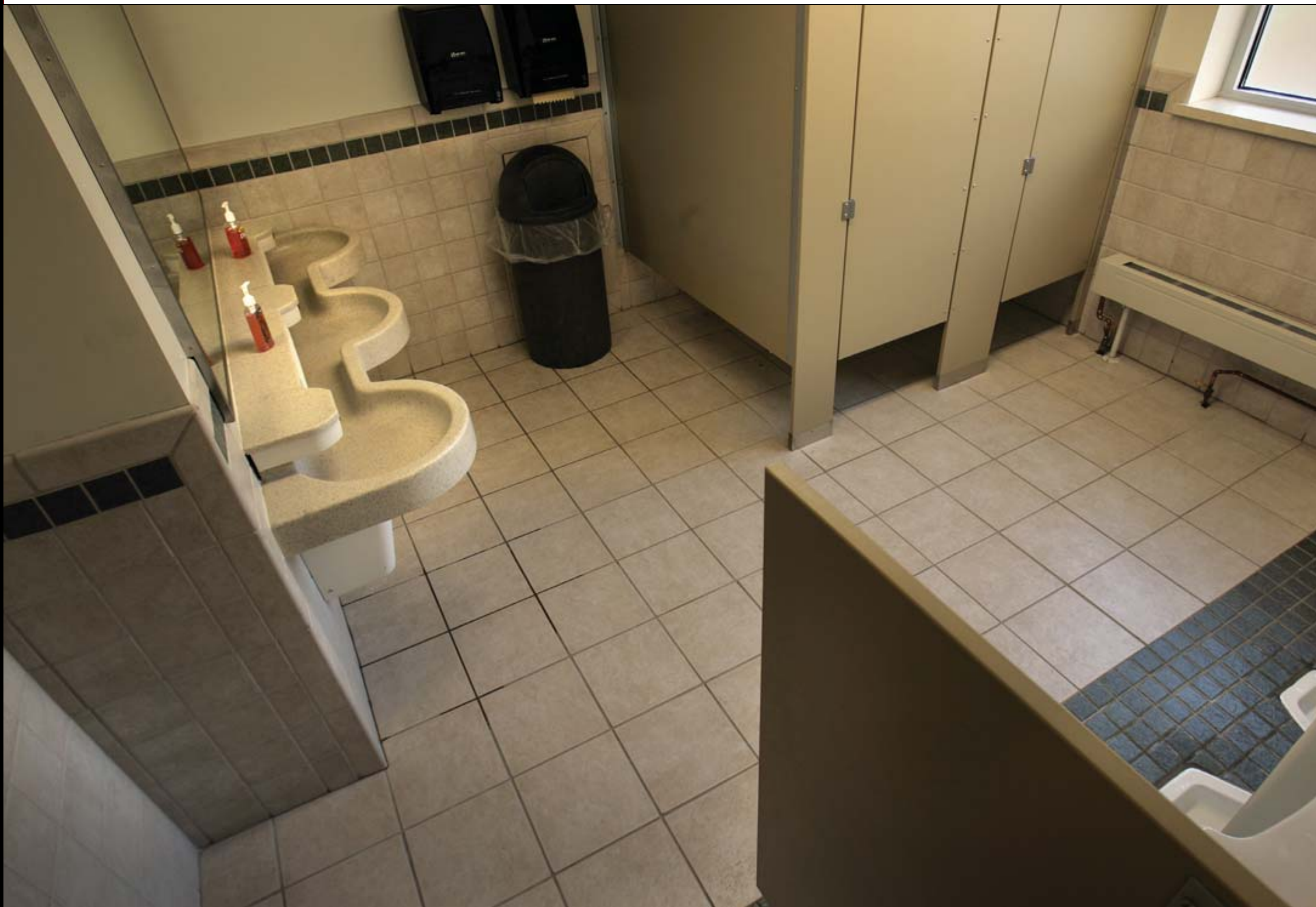
Case studies document energy savings of 30% to more than 40% with daylighting controls. Watt Stopper's daylighting controls include groundbreaking features, such as a sliding setpoint control algorithm, to ensure occupant comfort and simplify, or even eliminate, commissioning.

Watt Stopper/Legrand offers a comprehensive line of occupancy sensors, daylighting controls and scheduled control systems. Let our technical experts and LEED-AP sales force help you find ways to achieve the energy savings and product performance you want for your next project.

For more information, and for energy-efficient lighting control solutions, call **800.879.8585** or visit **www.wattstopper.com.**

Watt Stopper
legrand
PUTTING A STOP TO ENERGY WASTE®

Circle 112 for more information ■ freeproductinfo.net/asu



Restroom areas should be warm and attractive, as well as clean and convenient.

Germ Wars

Lessons in handwashing begin with smart washroom planning.

By Kris Alderson

It's estimated that at least 22 million school days are lost every year because of colds caught by students and faculty, according to the Centers for Disease Control and Prevention (CDC). There's still no cure for the common cold, but there is a time-honored way to prevent it, the agency says: handwashing, ideally with good old soap and water. It's still the best solution.

"Keeping your hands clean is one of the best ways to keep from getting sick and spreading illnesses," advises the CDC's Ounce of Prevention initiative, www.cdc.gov/cleanhands/. "If soap and water are not available, use an alcohol wipe or hand gel."

Having clean hands also is one of the most effective ways to prevent gastrointestinal illnesses, which account for absences by students and teachers. In fact, handwashing also is

promoted as the best way to prevent MRSA, one of the antibiotic-resistant "super bugs." That hard-to-treat infection once was limited to hospitals and nursing homes, but now it has become a public health problem, with outbreaks especially found in schools, and among amateur and professional athletes. It starts as a skin infection, resembling a spider bite, but it can progress to the bloodstream or heart, and can cause pneumonia or death.

Despite what research and common sense say about keeping hands clean, many other surveys show that students and adults are notoriously lax about hand hygiene, even after using the toilet. Add to that the countless surfaces and objects students and teachers touch in the course of a day, and you've got a beaker of germs ready to ripen.

How can schools and universities help encourage handwashing? They can select washroom locations strategically; incorporate attractive and inviting designs; and install easy-to-use, hands-free, vandalism-resistant fixtures.

Planning considerations

To encourage more students and faculty to use and respect school restrooms, it is critical to make these areas warm and attractive, as well as clean and convenient. Strategic design, consistent maintenance and touch-free fixtures should be considered in a school's plan.

Restrooms should be attractive—bright, well-lighted, safe, clean and consistently stocked with toilet tissue, soap, hand sanitizers and other necessary supplies. A survey conducted by papermaker Kimberly-Clark found that some school restrooms are so uninviting and even repellent that one out of five students refuses to use them. Another study found that more than two out of five middle school and high school students avoid using bathrooms.

Just as run-down neighborhoods can encourage crime and graffiti, neglected buildings and rooms invite vandalism and bad behavior. A poorly maintained washroom or locker room may harbor bacteria and germs that can cause illness.

Another CDC report noted that after using a public restroom, a person's hand may have as many as 200 million bacteria. In restrooms, germs congregate in damp areas and on door handles. That's one reason hands-free, sensor-activated faucets, fixtures and other accessories have come into widespread use in public

FINALLY... A FAST HAND DRYER!

- Three Times Faster (10 to 15 Seconds)
- Uses 80% Less Energy Than Conventional Dryers
- 95% Cost Savings vs. Paper Towels
- Greenspec® Approved
- Helps Facility Qualify for LEED® Credits



GreenSpec® LISTED
U.S. GREEN BUILDING COUNCIL MEMBER
MADE IN USA CERTIFIED USAc: 00AA.0027

THE XLERATOR

INDUSTRY THE NEW STANDARD

EXCEL TIME TO THROW IN THE TOWEL

EXCEL DRYER Inc.
Tel: 1.800.255.9235
Email: sales@exceldryer.com
Web: www.exceldryer.com

Circle 113 for more information ■ freeproductinfo.net/asu

facilities. Another reason: They conserve water and help reduce utility costs.

Conventional faucet handles in older public washrooms also house germs, so touching the handle, even after washing, recontaminates just-cleaned hands. The problem multiplies when students use manual cloth or paper-towel dispensers, or even air blowers that require a button to be pressed. When all those steps are combined, there go most of the hygienic benefits of handwashing.

Restroom design ideas

An inviting restroom can encourage students to follow the rules. Some design considerations:

•**Incorporate architectural elements**. Many facilities designers make restrooms more appealing by using warm colors and textures instead of institutional white. This includes lavatories, toilet partitions and accessories that can be ordered in coordinating colors. Choose durable, solid-surface lavatory systems in colors that coordinate with walls, tiles and other accessories in the restroom.

Contemporary school restrooms can incorporate architectural elements—sleek, sweeping lines; curved sinks; and rounded shapes vs. traditional square ones. In addition, lighting plays an important role in creating a welcoming space, so keep lighting in the warm temperature range, and stay on the softer side.

•**Durability, low maintenance**. Aesthetically pleasing restrooms also can be durable and low-maintenance, and provide greater resistance against vandalism. Solid plastic restroom partitions and solid-surface material used in lavatory systems resist graffiti and scratching; stainless steel also is durable. Both surfaces can be wiped clean easily.

•**Germ-resistant, solid-surface material**. Lavatories made from smooth, non-porous solid-surface material help guard against the growth of mold or bacteria. An integrated bowl design also eliminates crevices for microbes to hide and further helps prevent the spread of germs.

Upgrading older facilities

To save water and update the look of a facility, education institutions should replace old sinks, toilets and urinals with more efficient models in restrooms and locker rooms. By removing stained or cracked china lavatories and replacing them with solid-surface lavatory systems, restrooms can be more attractive—and functional. These systems require fewer connections and rough-ins, reducing labor costs.

Other features that save money and keep restrooms tidier include built-in soap dispensers that drip into a bowl and infrared sensors that shut off flow after use. These also can deter vandalism.

Another way to encourage handwashing is to install classroom sinks in science labs, art rooms and other busy areas.

Budget issues

Whether building new facilities or upgrading existing space, budget is critical, so it is important to include efficient, energy-saving fixtures into planning and layouts:

•**Green elements**. Carefully planned restrooms and locker rooms afford ideal opportunities for containing and even reducing utility costs—especially if schools incorporate elements found in green buildings. This means a building that uses a minimum of nonrenewable energy and reduces pollution. Today's restrooms have a variety of eco-friendly technologies that cut water and energy consumption, and minimize use of natural resources.

WEB 101

For more articles on restrooms and locker rooms, visit the article archives at ASUmag.com.



Hands-free, sensor-activated faucets and accessories can conserve water and help reduce utility costs.



Handwashing is key to preventing the spread of germs.

One of the newest touchless technologies to become available is a light-powered handwashing fixture. This specialized technology uses photovoltaic cells to convert restroom lighting to energy, activating the flow of water to the lavatory system.

•**Low-flow fixtures.** By specifying low-flow fixtures, metered faucets and waterless urinals, schools can reduce water consumption by more than 30 percent. This can translate to major cost savings in water and sewer bills, as well as energy costs for heating water. Newer fixtures as part of a restroom renovation also mean less maintenance and greater resistance against vandalism.

Lavatories with tankless water heaters provide hot water on demand and are concealed within the lavatory system's pedestal. Handwashing fixtures with tankless heaters require only a cold water source. Only the water needed at the faucet is heated, rather than requiring a hot-water tank in a distant area of the building. ■

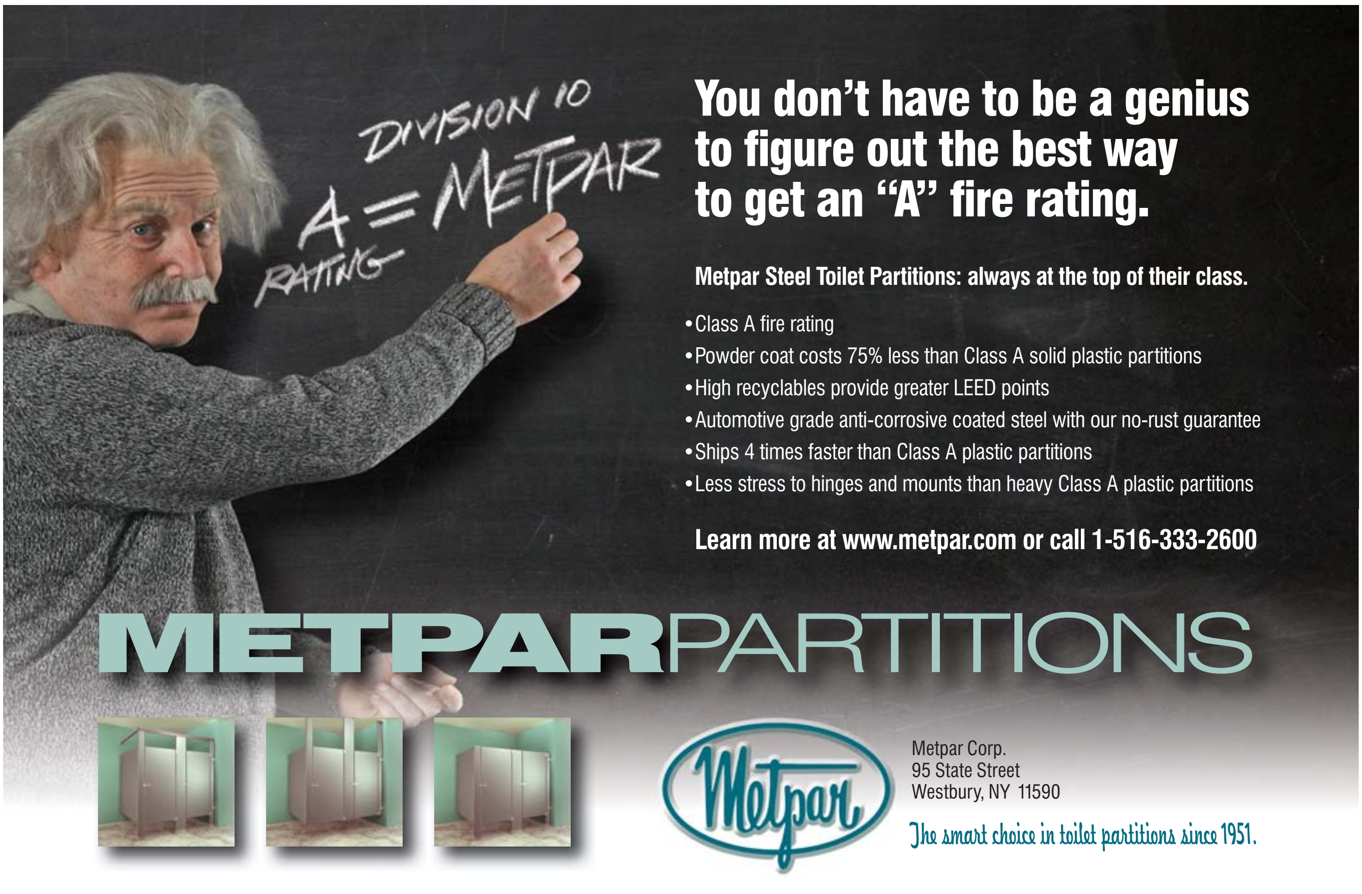
NOTABLE

22 million

Estimated number of school days that are lost every year because of colds suffered by students and faculty.

Source: Centers for Disease Control and Prevention (CDC)

Alderson is a senior marketing manager for Bradley Corp., Menomonee Falls, Wis., a USGBC member and manufacturer of locker room products, plumbing fixtures, washroom accessories, partitions and emergency fixtures. She can be reached at (262)532-1096 or kris.alderson@bradleycorp.com.



Circle 114 for more information ■ freeproductinfo.net/asu



In this example, an existing roof has split plies at the base flashing, allowing water infiltration.

Action Items

Ace the complex roofing test: think, research and act to solve the problem.

By Mark Baker and Brian Keane

Maximizing school resources and managing a shrinking budget—these are two important items affected when a building's roofing system doesn't perform properly. Rather than acting in haste, school and university administrators should do what every teacher tells a student prior to answering any question: think through the research and studies to find the best solution before acting. The same is true when trying to solve a roofing problem.

In planning their course of action, building engineers and school administrators need to consider five elements to help produce a positive outcome:

- •Proper diagnosis.
- •School advisers.
- •Selection of roofing systems.
- •Warranties.
- •Quality control.

Assess conditions

Before ordering that new roof or caulking everything in sight, administrators need to carry out a vital first step: assess the roof's condition and determine which corrective action is needed. Often, an untrained eye will choose a costly repair that is either overkill or just a stop-gap fix. Rather than jump into a repair, facility managers first should do the research.

Although a custodial team may be able to identify the signs (or symptoms) of a leak, a trained professional, such as a specialty engineer, not only can find the cause of the leak, but also identify deficiencies that could lead to future ones (see sidebar on p. 36). Assessing existing conditions enables education institutions to choose the proper method of fixing the problem, whether it is a repair or, in the worst case, total replacement.

Reviewing the facts can save thousands of dollars and get the job done right the first time. In many instances, the life of the roof can be extended by three to five years with minor repair and refurbishment.

Selecting partners

Do the research when selecting a partner. When people have the flu, they don't go to an accountant. Selecting a professional who is totally versed in repairing and replacing institutional roofing systems is essential. A design professional will be able to properly identify and specify appropriate performance criteria for the repairs or replacement.

The architecture/engineering firm a school hires should be familiar with the geographic location and specific building codes.

Many firms specialize in school construction for new and re-roofing projects. A firm that specializes in this work may cost more, but the additional cost is worthwhile if it leads to a properly specified and installed product without the extras and change orders that inexperienced contractors often submit.

All materials not equal

For repairs, many products are available. Within each single-ply, modified bitumen or spray polyurethane foam category (among many



Campus appearance matters

Students rank "campus appearance" as one of the top factors in choosing a college.*

* Based on 2007 research by Noel-Levitz, "Factors to Enroll" study of college students in four-year universities.

The **RS 501**™ vacuum sweeper from Advance can help your campus make a great first impression. This versatile sweeper cuts around tight corners, maneuvers curbs and traverses sidewalks to easily handle any size debris — even on brick and cobblestone. Equal parts power and agility, the RS 501 tackles outdoor cleaning challenges other sweepers can't. Make your campus rank high with a positive appearance year around.

Call 866-429-8175 to schedule a demo. Or, for a free white paper on outdoor cleaning productivity, visit www.advance-us.com/outdoor.



Advance

Smart cleaning. Local service.

A Nilfisk-Advance Brand

www.advance-us.com

Circle 115 for more information ■ freeproductinfo.net/asu



This example shows condensate water ponding on a roof, which should run to a drain.

Simple steps to extend the service life of existing roofs

Every spring and fall, the custodial staff should check, and correct where possible, the following:

•**Roof access**, which should be limited to only those needing access. In addition, a sign in/out log should be created to monitor roof traffic.

•**Protective walkways** are in appropriate traffic areas.

•**Drains, scuppers, gutters and downspouts** should be cleared of debris and checked to ensure they are functioning properly.

•**All accumulated debris, foliage or garbage** should be removed.

In addition, inspect for and document the following potential deficiencies:

•**Ponding water/inadequate slope to drain**. Ponding water will reduce the service life of a roofing system and could void any warranties.

•**Soft spots and depressions**. These can be a sign of collapsed insulation, generally because of either construction traffic or moisture saturation.

•**Blisters and bubbles**. Blistering and delamination of roofing plies can be a sign of moisture intrusion, wind damage or poor installation. Administrators should notify the membrane manufacturer immediately in writing when they discover any areas of observed or suspected delamination.

•**Seam integrity**. Where the roof system overlaps or seam areas can be visually inspected, any suspected voids or openings should be documented and the manufacturer contacted for repair.

•**Flashings and penetrations**. Inspect flashings and penetrations for proper membrane adhesion. Inspect caulk sealant for signs of weathering. Inspect penetration pockets (pitch pans) to verify that the sealant inside the pocket has not shrunk and led to cracks that allow water intrusion.

•**Metal and stone copings (where they exist)**. Many leaks blamed on roofing materials actually are the result of water infiltration through joints of metal or stone coping systems. An inspection should be conducted to make sure coping systems remain properly in place; wind and building movement sometimes can displace these items and lead to cracks and water infiltration.

products), additional product types are available with varying performance characteristics and installation requirements, ranging from mechanically attached and fully adhered to spot-applied and self-adhered.

Not all materials are suitable for all projects. In fact, a single project may have different areas and substrates that benefit from different materials. Again, do the research to find the best solution.

The Internet is a valuable tool for research to verify the materials recommended or specified by the design professional and contractor. Also, review a manufacturer's product data sheets and physical properties to confirm that a product is right for your project.

For example, schools situated in the South may be concerned about energy savings. Hence, white or light-colored roofing makes sense to reduce surface and interior temperature, and to lower air-conditioning expenses.

If a rooftop will have a lot of activity, the choice of material becomes paramount. In this example, unreinforced EPDM would not be an ideal solution.

WEB 101

For more roofing maintenance tips, visit the article archives at ASUmag.com.

The warranty/guarantee

A big misconception is that having a roofing warranty is protection against problems. Roofing warranties are written by attorneys retained by manufacturers, and their language is such that the terms and conditions benefit them. So it is important to understand what the warranty covers.

Warranties run from five to 20 years, and requirements often get stricter as terms get longer. Typical coverages:

•**Full system warranty**. Material and labor are covered to repair or replace damaged areas because of defective material or improper installation. They can be of "No Dollar Limit" or "Limited to Original Installation Cost."

•**Limited warranty**. Material only, which means a manufacturer will supply materials to replace defective materials at no cost. These warranties generally are limited to the original cost of material, which is important to know when materials need to be replaced after 10 years and the institution has to make up the price difference.

In some cases, repairs carried out by a staff member—and not a contractor—may void the warranty. Check the fine print before acting.

Keep in mind that the better warranties are not free. The more

protection you want, the more money they will cost. Generally, warranty costs range from $0.10 to $0.25 per square foot.

Review the proposed warranty as specified and upon completion of the project to ensure the warranty provided by the manufacturer is as specified. Review the language stipulating wind-speed coverage as it can range from 33 to 100 mph. For specific wording regarding a warranty, ask the manufacturer, because many will attach a separate rider to the warranty to accommodate an owner's request.

Management and monitoring

A traditional bid system can produce expensive and poor work without proper monitoring by a third party. For any repair or replacement project, adequate inspection services are critical to the outcome.

As one example, within the construction market, competition is so tight that many contractors are forced to bid projects at levels at or just above the break-even point. As a result, without monitoring, contractors can have a school at its mercy, potentially hitting the school with unnecessary change orders at elevated prices to make a profit after bidding low on a project.

Additionally, contractors who bid the lowest can't always recruit and pay for the most skilled workers. Although the majority of the contractors do not intend to do a bad job, they cannot watch every worker install a product. As such, experience shows that when problems occur, nearly 66 percent of the problems are related to workmanship. Often, workers simply don't follow proper industry or manufacturer guidelines.

Contracting with a firm to provide full-time supervision does not guarantee that there will be no problems, but it does eliminate many issues, and it provides one person on the roof who is responsible for the daily construction activities. ■

NOTABLE

33 to 100

In miles per hour, typical wind coverage range on a roofing warranty.

Baker, PE, is president and principal of IBA Consultants, a building envelope consulting firm with eight offices nationwide. He can be reached at (888)550-4422 or mbaker@ibaconsultants.com. Keane, RRC, is a senior consultant with the firm. He can be reached at (888)550-4422 or bkeane@ibaconsultants.com.



We were inspired by the concept of energy efficient, clean power. So, we created the Airforce™ hand dryer.

We were inspired to develop the new Airforce™ hand dryer, that uses only 1150 watts, but delivers 10,500 LFM to dry your hands within 12 seconds.

What's more, with anti-bacterial coated covers and components, the AirForce™ drastically reduces the spread of harmful bacteria.

Clean. Powerful. Efficient.
The Airforce™ from World Dryer.



WORLD DRYER®
800-323-0701 www.worlddryer.com

Circle 116 for more information ■ freeproductinfo.net/asu

Cabling Labeling

Get it right the first time to prevent future confusion.

C.WILLIAM DAY



Day is senior analyst at KBD Planning Group, Young Harris, Ga., a firm specialized in education facilities and technology planning. He can be reached at bday@kbdplanning.com. www.kbdplanning.com

Years ago, a wise person said, "Do it right the first time, because practice makes permanent." One detail often given short shrift during any cabling installation is the labeling placed on each wire, indicating its origination and termination locations.

When commissioning infrastructure, a total overhaul of the building-wide labeling scheme often is required. Although this procedure is not expensive, many vendors ignore this common-sense task and make it nearly impossible for school IT personnel to later figure out where wires are routed. Over the life of a building, cables are installed to accommodate additions, moves and changes, and often the numbering system for labeling cables has no rhyme or reason, if they are even labeled at all.

Although technology cabling has been simplified and standardized over the years for installation, the industry never has formally adopted standards so IT personnel can track the routing when changes occur.

This might happen for several reasons. First, when a building is designed, the architect assigns a room numbering scheme to be used on plans during construction. Building prints end up with an alphabetical and numerical system often depicting the phase of construction or a building wing. For example: A101 is a room in Phase A of construction on the first floor; these prints are given to trades who label cables, pipes and HVAC equipment for their use during construction, using the only numbering system available at that time. But when the building opens and the vendors are long gone, the system by which those cables are routed from origination point to termination point is gone with them. The building occupants renumber the rooms according to their own system, and A101 now may be known as room 1207.

Another common circumstance is when a vendor pulls, for example, four additional cables through a building at a later time and numbers them "1, 2, 3 and 4." The owner is left looking at a data jack with no way to know where the cables are terminated in the building.

The solution to this problem is simple. A naming convention for technology cabling, either building or districtwide, will simplify the cabling scheme and enable schools to easily understand how their cabling system works. The most common naming convention for technology cabling is first numbering the main and intermediate wiring closets (MDF/IDF closets) as the origination point; next, identify the room number assigned by the building occupants; and then identify the individual cable termination point in that room. So in the case of room 1207, the first data wire number would be A1207-1; (A) = IDF A, (1207) the room number in the building and (-1) the number 1 cable in the room. This makes it simple to immediately identify technology cable routing. ■

Endless Search

Looking for the ideal class size.

JAMES E. RYDEEN



Rydeen, FAIA, is an architect/facility planning specialist and former president of Armstrong, Torseth, Skold & Rydeen, Inc. (ATS&R), Minneapolis. He can be reached at Jrydeen@atsr.com.

When it was built in 1848, Boston's Quincy Grammar School, the first fully graded elementary school in the United States, had enough room to cram 55 students into each classroom. Over the years, as the era of regimented learning gave way to learning by doing, the number of students per classroom has declined, and the drive to lower student-teacher ratios continues today.

Many educators see smaller class sizes as the best way to create effective teaching and learning conditions, especially in the early grades.

Reducing class size to reach an ideal student-teacher ratio requires more staff and classrooms. Generally, additional classrooms are needed, unless programs are eliminated to free up classrooms. A review of 13 states with class-size-reduction initiatives found class sizes ranging from 14 to 24 students in K to 3, 17 to 29 students for grades 4 to 6, and 25 to 35 students per classroom for grades 7 to 12. Lack of space for classrooms has forced some schools to give up their science labs, libraries, and preschool and parenting-education classrooms.

Adding classrooms and employees increases a school's operations and maintenance costs. The majority of a school district's budget is spent on special programs, social services, salaries, support staff, health services, transportation and technology. According to one report, 70 to 80 percent of a district's operating budget goes to salaries and benefits. As salaries and health-insurance costs rise, including the number of employees outside the regular classroom, district spending increases. Small districts usually are the costliest because they must provide full services to a smaller number of children.

Attempts have been made over the years to decrease class sizes. Much of the focus now is on the primary and intermediate grades. Research indicates that class sizes in the range of 18 to 20 for grades K to 3 produce positive learning results for a student well into senior high school. Disadvantaged students are helped the most, according to research. Less emphasis is put on decreasing class sizes in secondary education because the expanded curriculum results in smaller class sizes; some advanced courses have sections varying in range from five to 20 students.

In 1999, the federal Class-Size Reduction Program was created to help improve student achievement by reducing K-3 class size to 18 students. One major obstacle to reducing class size was finding enough qualified teachers.

Each individual, whether preteen, teen or adult, possesses unique and different learning styles regardless of economic, sociologic or cultural backgrounds. Searching for the ideal class size must continue, as well as researching student achievement to justify the increased costs. ■

Economic Woes

Keeping green in mind in tough times.

"It's the economy, stupid" was Bill Clinton's mantra in the 1992 presidential campaign. Today, news about the economy is everywhere—and it's mostly bad. As much as I feel the need to "cheerlead" and put a positive spin on green cleaning, I also think it is important to be pragmatic.

Many schools and universities are experiencing economic hardships because of the economy. Tough decisions must be made. If we have learned anything from history, it is that construction, facility, maintenance, transportation and other operational issues are likely to take a back seat to staffing and issues considered key to the educational mission. Although a case can be made that healthful buildings are "key" to educating kids, green cleaning often is secondary to simply paying teachers and staff.

Still, schools and universities should try to maintain the momentum on their green and sustainability initiatives. America will emerge from this recession, and green and sustainability shouldn't be abandoned during this period of belt-tightening.

Abandoning or delaying green initiatives inadvertently blames "green" as the cause for economic problems. Rather, the discussion should be defined as one that differentiates projects that are capital-intensive from those that require little, if any, upfront investment.

In difficult economic times, green-cleaning programs can continue or even expand. Compared with other opportunities that require significant upfront investment capital (e.g. solar panels, green roofs, adding insulation, replacing the HVAC system, etc.), green cleaning can be "cost neutral."

For those who have not yet established a green-cleaning program, this is an ideal time to begin. Many local janitorial supply distributors will conduct an audit to identify available options and opportunities.

Many green-cleaning opportunities exist, such as converting to green chemicals, replacing ready-to-use and aerosol cleaning products with green concentrates diluted on-site through chemical-management systems, and replacing virgin paper products in multi-fold towel dispensers with recycled products on large rolls dispensed from touch-free dispensers. The best part is that these opportunities often can save money.

For those who already have started the green-cleaning journey, additional opportunities can be found at little additional cost. Traditional products can be replaced with green alternatives within existing budget parameters.

One overlooked opportunity is letting your community know about your green-cleaning program. Many distributors can help with articles, newsletters and more, which are a good way to create "value" at little cost, and to keep people aware of green and sustainability issues until the economy allows for those projects that require greater capital investment. ■

STEPHEN ASHKIN



Ashkin is executive director of the Green Cleaning Network, a 501(c)3 not-for-profit educational organization.
www.GreenCleaningNetwork.org
SteveAshkin@GreenCleaningNetwork.org

SCHOOL SECURITY

Strategies to improve the safety of students, staff and facilities

INSIDE THIS SPECIAL SECTION:



Tarver Elementary School
Temple, Texas

Architect: SHW Group LLP
Photographer: Mark Trew

TRIAL AND ERROR

How to achieve maximum benefit from campus security technology.

By James R. Black



Although there are many options, technology will not solve all security problems.

Completely securing a campus environment against every threat is impossible; however, just because someone can break a side window doesn't mean you don't lock your front door. Campuses throughout the nation are deploying security technology at an unprecedented pace as an important component of their security programs.

Modern security systems on campus require special attention to ensure that the equipment and systems function as intended, that they do not overburden staff and that they are maximized to their intended benefits. Individual technologies also must integrate seamlessly so that the whole is greater than the sum of its parts.

Straight talk

To help get maximum benefit from security systems, education institutions should review five common mistakes in campus security technology deployment, as well as tips for how to avoid them.

•**Mistake 1: Believing what you read and hear.** The security industry does not oversee or regulate what manufacturers print or say about their products. Finding unbiased information about products is difficult. Trying to learn a company's strategic vision for its products and a particular product line is harder. Forecasting which companies may purchase, absorb and otherwise eliminate products is impossible. The flood of proprietary specialty products amplifies the problems faced by decisionmakers.

Schools are challenged for time and resources, and

IF YOU CHOOSE THE WRONG LIFE-SAFETY SYSTEM THE FIRST TIME, THERE’S ALWAYS A NEXT TIME.

UNLESS THERE ISN’T.

Life-safety systems are vital to campus life. They help protect students, faculty and employees, not to mention the facilities themselves. At SimplexGrinnell, we’ve long been leaders in integrating fire, life-safety and security systems; providing service; and helping campuses with emergency preparedness. Get it right the first time. Choose SimplexGrinnell. And be safe.

SimplexGrinnell
BE SAFE.

A Tyco International Company

1-800-746-7539
www.simplexgrinnell.com





© 2008 SimplexGrinnell LP.
All rights reserved. SimplexGrinnell and Be Safe are trademarks of Tyco International Services AG or its affiliates or subsidiaries.

Circle 117 for more information ■ freeproductinfo.net/asu

usually need to make decisions quickly. How do education institutions address this challenge? First, they should be skeptical of everything they read and hear. Focus less on technical data such as pixel counts and laboratory-controlled error rates, and more on head-to-head evaluations in real-world conditions. Seek unbiased and experienced evaluations and advice. Use associations or other peer networks to solicit feedback on what works and what doesn't. Before committing to any technology, conduct "proof of concept" testing at a facility to replicate how proposed technologies will perform and, more important, whether the technology meets real needs. This is different from "beta" testing, which allows a company to use a school as a guinea pig for its product development.

Finally, leave an "out" if a particular technology falls flat. Depending on the technologies deployed, putting all security eggs in one basket may not be necessary. Anticipate and prepare for the worst-case scenario. Explore the ways, even with proprietary systems, to lessen the impacts should a change in course be necessary. Develop an infrastructure that can support multiple options.

•**Mistake 2: Thinking technology will solve security problems**. Every security technology is only as good as the operational and physical security program that supports it. History has demonstrated time and again that the simplest procedural breakdowns can render useless the most sophisticated systems. Remember, security technology is only one aspect of a security program and depends on the success of the other parts in order to be effective.

Some technology proponents and suppliers might assert that video surveillance cameras can replace the need for campus personnel when, depending on the situation, more personnel ultimately might be needed to receive, assess and respond to alerts generated by advanced systems. It is important to keep expectations reasonable about technology's role in an overall security program and thoroughly understand exactly what the impacts will be from each proposed system. Ultimately, a security program's success may hinge on the perception of how effectively and appropriately security technologies have been deployed on campus.

•**Mistake 3: Insufficient planning**. Security incidents on campus are stressful for everyone. Our instincts tell us that the sooner a problem is addressed, the better we will feel. Security technology such as cameras, access control and intrusion detection can seem like obviously good tools to deploy. However, rushing into deployments without appropriate planning is not always best and, in some cases, can create unnecessary liability.

A thorough understanding of the real vs. perceived needs for security technology throughout campus is necessary prior to deploying any equipment. Security planning for a campus involves understanding not only the school's needs and which technologies are appropriate, but also the "low-tech" and "no-tech" supporting features essential to program success. Wherever cameras are deployed, the campus lighting plan should support them. When facilities are designed or renovated, minimum-security technology standards should be in place. Before product standards decisions are made, a thorough evaluation should be performed, including identifying a pool of competent, factory-certified installing companies to provide options and ongoing support. When security systems costs are estimated, anticipate the 5- to 10-year service and maintenance needs in addition to the ongoing personnel and operational costs of maintaining these systems.

> (Every security technology is only as good as the operational and physical security program that supports it.)

•**Mistake 4: Leaving out critical stakeholders**. Like many businesses, campuses can be political environments with competing interests, agendas and legacy attitudes. Some administrators have developed a mindset over time that in order to obtain consensus on issues, the pool of stakeholders must be as small as possible. Security projects that proceed without involvement from important stakeholders invite criticism and open the process up to obstacles that can be avoided.

Some of the commonly overlooked stakeholders include service and maintenance staff that will have to maintain systems; field personnel that respond to system alarms; operators that will be using the equipment on a regular basis; and information-technology personnel whose network may be supporting the systems, and may be called on to perform initial troubleshooting and software updates. Other departments that may need to be included are legal, local law

WEB 101

Share your security challenges and victories by commenting on an article at ASUmag.com. At the end of any article, leave a comment, and start a discussion about security or life safety.

Some recent security stories:

- Emerging trends in security.
- Security systems commissioning.
- Bolstering security at campus doors.
- Right-sizing security technology.

Seek unbiased and experienced evaluations and advice.

enforcement, human resources and procurement. Not every stakeholder needs to be integral to every security technology decision process; however, inviting these stakeholders to the table from the outset can smooth the process and remove much of the potential opposition to a security technology plan.

•**Mistake 5: Deploying more technology than necessary.** Just because it can be done doesn't mean it should be done. In recent years, security mandates and grant funding opportunities have enabled campuses to acquire significant amounts of security equipment. Unfortunately, funding processes rewarded those who could provide the best justification for their requests. The nature of this process meant that requests for funds to create a security plan or update company-wide security policies and procedures were given less weight than requests for "bleeding edge" technologies. As a result, whether incident-driven or not, many facilities have deployed more technology than they need. On top of this, too many clients accept "beta" test systems to cheaply augment their existing security systems.

Ultimately, shortsighted technology deployments like these have become impediments. How much technology is enough? Match every technology deployment to a specific documented need. Make sure that these needs cannot be addressed by simpler and easier-to-manage "low-tech" or "no-tech" solutions. One test to evaluate whether a school has deployed too much technology is to perform the following test. Find the person within the organization who is most familiar with the security systems. Ask that person to explain to a selected group of non-security employees (representing various skill and authority levels), what the security systems do and how using this technology benefits the campus. If the explanations are not clear, concise and incorporate every aspect of the systems, the school may have too much equipment. ■

Black, CPP, PSP, CSC, CET, is senior security consultant and operations manager for TRC in its Irvine, Calif., office. He can be reached at jblack@trcsolutions.com.



Circle 118 for more information ■ freeproductinfo.net/asu

STANDING TALL

Comprehensive security solutions for multi-location campuses.

By Glenn R. Rosenberg


A security officer can be the eyes and ears for campus police at multiple buildings.

Many colleges and universities are intensifying security measures to protect students, staff and visitors. The challenges for keeping a single campus safe are formidable. An even greater challenge exists when planning and establishing security at multiple locations.

College campuses often are thought of as contiguous, with defined boundaries. However, it is rare to find a college or university that is totally self-contained. Most institutions have buildings situated away from the campus core. These off-campus facilities may house professional schools, evening programs, research centers or economic-development engines such as research and development labs or business incubator facilities.

Many larger urban universities pressed for square footage will acquire additional space for academic or administrative functions. And, with parking spaces at a premium, some schools must use remote locations to provide parking for students, employees, contractors and visitors. The colleges may run shuttles to the core of campus for 16 hours or more each day. Some multi-location colleges, especially entrepreneurial for-profit institutions, have a business model based on maintaining satellite locations throughout the country. So, what are the challenges for an education institution that needs to protect multiple campuses?

Education administrators understand that a campus with a poor reputation for safety will not score high with retention, admissions, fund-raising initiatives or employment attractiveness to faculty and staff.

Working with professionals

Most larger higher-education institutions supplement their internal police or security workforce with privatized security.

What should a multi-location institution look for when

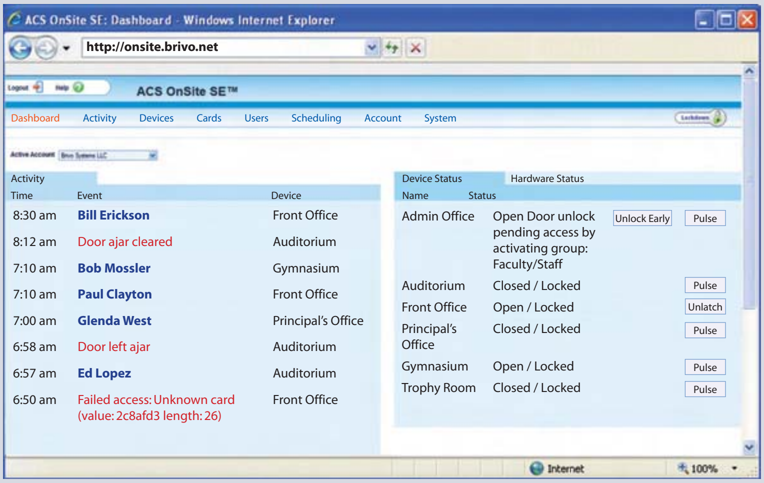
If your access control system is difficult to manage, how can you be sure it's managed correctly?



Do you want to risk your school's security on complicated software no one really knows how to use?

To manage your Brivo access control system, all you'll need is Internet access and a Web browser—any Web browser, regardless of operating system.

Plus, Brivo provides all the standard access control features you should expect, including notifications of events like propped doors.



brivo®

Call toll-free today for a demonstration 1-866-692-7486, option 1, email us at sales@brivo.com, or view all your options and make your choice at www.brivo.com/demo

Brivo Systems LLC, 4330 East West Highway, Suite 250, Bethesda, MD 20814

Circle 119 for more information ■ freeproductinfo.net/asu

hiring contract security? Consistency of security service across multiple locations is paramount, and colleges and universities are best served by one central resource. Hence, universities often look for a national contract security services company that has a single point of contact and that can scale up or down in services across multiple, diverse locations.

The questions to ask before making this contracting decision are significant. Can this security provider deliver consistent service across multiple locations? A company that has presence in New York, Boston and Los Angeles may not have the same capacity to manage and staff campuses in other parts of the country. A security company must be able to deliver in each region.

The security officer labor pool differs widely from market to market in level of experience, qualifications and salaries. Often, pressures to negotiate for a lower, national fee as a consideration for a volume discount are counterproductive; the cost of experienced officers in Manhattan, N.Y., differs greatly from salaries paid in Manhattan, Kan.

All-hazards support increasingly is factored into a security decision. Is a contract security firm able to handle emergency responses emanating from natural or manmade disasters? These emergency scenarios could range from a chemical leak in a research facility to on-campus violence and acts of nature, including earthquakes and tornadoes.

Contracting considerations

A major issue for colleges and universities is finding a security provider that has experience protecting many different kinds of off-campus facilities. A downtown location for a public-affairs program is likely to have an office setting; research facilities may present challenges similar to those found in the manufacturing industry. Universities often have multi-use properties, so the challenges of retail and mall security also must be understood. Many campuses are turning to private developers to build and manage campus residence halls—and the security needed to protect these living spaces, especially during weekend and overnight hours, creates a whole new set of challenges that require knowledge of campus and national regulations.

A security officer can be the eyes and ears for campus police at residence halls, academic buildings and elsewhere. On college campuses, many problems happen on weekends or between 11 p.m. and 3 a.m. With off-site commuter and continuing-education colleges, campuses need security from 7 p.m. to 11 p.m. as students navigate their way to mass transit hubs or parking lots.

Another challenge for an off-campus location is the cold start. Where a campus security force may assemble for roll call and disperse to their posts after receiving instruction, the multi-campus security officer typically reports to his or her assignment without supervisory oversight. How does a security company ensure that a post is filled? What supervisory oversight is provided to the officer for instruction and relief? Are officers getting the support they need?



Training for security officers is crucial in a multi-campus environment where day-to-day variances are expected.

Student guards?

Historically, student workers have been hired as relatively low-cost, part-time security workers. Expecting students to monitor other students may be a slippery slope. They may find it difficult to handle peer pressure or enforce policy. Although many students perform diligently in this role, using students in this capacity can raise numerous obstacles related to scheduling, training, background checking and managing a student security work force.

In recent years, some universities have contracted their residence hall monitoring functions to professional security companies. For such arrangements to succeed, a program should make sure that security officers master the fundamentals of protection as practiced, and regulated, in an institutional environment, including understanding the legal framework and the culture of the college.

Campus officials should define a specific role for contract security officers; they can perform many routine tasks (e.g., personal safety escort services, foot patrols, parking details, vehicle assists, etc.), and supplement building safety and maintenance systems.

Safety awareness on campus

Security On Campus, Inc. was formed 20 years ago by Connie and Howard Clery in response to the death of their daughter, Jeanne, who was killed in her college residence hall by a student she did not know. The doors to her hall, which should have been locked, were propped open by fellow students. Jeanne's parents were instrumental in championing the Clery Act, a federal law that requires colleges and universities to disclose information about campus crime and security policies.

The Clery Act requires that certain information about a

campus' safety program and major crime statistics are reported annually. A multi-campus institution must maintain daily crime logs and provide separate reports for each campus. An experienced security provider can help a college or university understand and follow the Clery regulations.

If a college or university contracts with a security-services company, the firm needs to be able to conduct comprehensive background screening, including employment history, criminal records and drug tests.

Does the college's contract security firm have a commitment to continual training? Parents and students should expect that campus security professionals and any firm hired by a college are committed to enhancing the technical skills and industry knowledge through comprehensive training programs. Training for security officers is even more crucial in a multi-campus environment where more day-to-day variances are expected. The challenges that face officers on multi-campus facilities range from protecting an off-site research medical facility from drug theft, to walking students to their cars after hours at an off-campus commuter college facility.

Also, administrators responsible for hiring security contractors need to know not only what their safety and security employees are doing to stay current with best practices, but also what a security firm's investment is specific to the issues encountered on a college campus (Clery Act, FERPA, alcohol abuse, etc.).

College administrators and security professionals must take the lead and set the standard for campus safety, but student involvement also is important. Campus crime prevention always starts and ends with an individual student. Every student needs to have the information needed to make safe choices.

Being aware of surroundings, using assertive body language, keeping doors locked, and using the buddy system will help students feel safer and may deter a potential attacker. These life and safety skills should be promoted regularly and shared with students. An experienced security provider can help with those initiatives and provide specific recommendations that students, faculty, staff and community members can follow. ■

Rosenberg is vice president of AlliedBarton Security Services' Higher Education division, King of Prussia, Pa., a provider of trained security personnel to many industries. He can be reached at glenn.rosenberg@alliedbarton.com.

WEB 101

What do you think about security officers on campus?

Comment on this article and others at ASUmag.com.



Circle 120 for more information ■ freeproductinfo.net/asu

Web-based Access Control

Brivo. Brivo's Web-based access-control systems require only Internet access and a Web browser—any Web browser, regardless of operating system—to manage your entire account. It offers all of the standard access-control features you should expect, with an intuitive interface so you can get the most out of your access-control system. Visit the website at www.brivo.com/education for more information on how Brivo serves education institutions.

Circle 150 for more information ■ freeproductinfo.net/asu

Campus Mass Notification



Code Blue. The Code Blue Public Address System (PAS) is an effective way to strengthen emergency broadcast coverage. The PAS modular concept design supports new call-box installations and also permits cost-effective upgrades. Message clarity, adjustable local unit volume control and method announcement choices supported by multiple broadcast zones through the head-end permit additional mass-notification refinement.

Circle 152 for more information ■ freeproductinfo.net/asu

CEIA USA Metal Detectors Provide High Degree of Security and Increased Flow Rate for University Events



CEIA USA. CEIA USA Metal Detectors meet the security and ease-of-operation needs of universities that run many events in multiple facilities. They have proven to be the most effective tools in protecting strategic buildings and large gatherings indoors or outdoors, such as in stadiums and arenas. These metal detectors offer a 100 percent detection rate and exceptional reliability. They also have the highest level of throughput available—even at high-security settings. Visit www.ceia-usa.com for more information.

Circle 151 for more information ■ freeproductinfo.net/asu

SAFLOK MT



SAFLOK. SAFLOK presents the "one" card solution for complete standalone campuswide access control. Through the use of smart-card technology, a single keycard can be used:

- To gain access into multiple rooms across campus.
- As student identification.
- As an electronic purse.

SAFLOK MT is tamper-resistant and features optional mechanical key override. Visit www.kabamultihousing.com for more information. ■

Circle 153 for more information ■ freeproductinfo.net/asu

GREEN | School & University

A Virtual Conference & Expo

June 24 · 10:30am - 6pm EST

Attend education sessions, network with fellow colleagues, meet *AS&U* editors and interact with industry leaders at *AS&U*'s FREE interactive event dedicated to green/sustainable practices in our nation's education institutions.

You'll learn specific strategies, tactics and best practices on:

- Green Design & Planning
- Green Buildings
- Green Cleaning/Operation

Visit: http://ASUmag.com/green_virtual_conference **to register for this free, unprecedented industry event!**

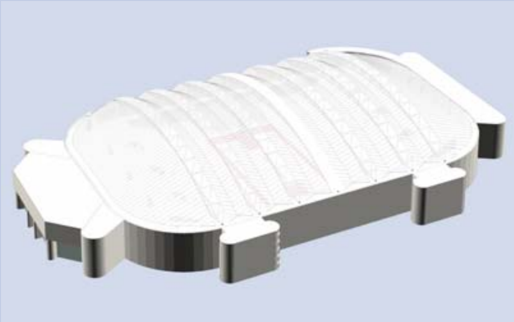
Presented by:
AMERICAN SCHOOL & UNIVERSITY




Their Security
Your Control...
SAFLOK™ MT™
• Reads smart, memory, and magstripe keycards as a standard feature
• Optional SFIC mechanical key override
• Vandal resistant
ILCO 790
• Contactless RFID technology
• Open architecture to allow seamless integration with campus servers
• Standard mechanical key override with optional SFIC
• Vandal resistant
Jane Smith
name
27142008
student ID number
U University
Saflok™
A Member of the Kaba Group
Toll-free: 877.272.3565
www.kabamultihousing.com
© SAFLOK 2008, all rights reserved. Patents pending
ILCO™
A Member of the Kaba Group
Toll-free: 877.468.3555
www.ilcolodging.com
© Kaba 2009, all rights reserved. Patents pending and protected
Circle 121 for more information ■ freeproductinfo.net/asu

Quality counts

Athletic center roof outlasts its life expectancy by seven years



Radford University, Dedmon Center rendering, Radford, Va.

Birdair. As part of its building renovations for the 2008-09 school year, Radford University, Radford, Va., replaced the roof on the Dedmon Center, the university's sports and athletic facility. The current Birdair roof had outlasted its 20-year life expectancy by seven years. The fact that the original roof weathered so well over time was the major reason the university chose Birdair for its second roof project.

Unlike the original roof with an air-supported, fabric membrane, the new roof will have a truss-supported, Tensotherm with Nanogel membrane—a Teflon-coated PTFE membrane that has highly effective insulative properties and delivers natural translucent light transmission to the interior. Despite being less than 2 inches thick, the incorporation of Nanogel aerogel allows the membrane to maintain an R-12 insulation value.

By retaining cool air in warm conditions and warm air in cold, Tensotherm increases thermal efficiency in the structure. Nanogel has an air content of 95 percent, making it the lightest solid material in the world. The Tensotherm with Nanogel membrane is sandwiched between two layers of PTFE to enhance its durability, water repellence and fade resistance, without adding significant weight to the structure.

The insulative properties of Tensotherm with Nanogel are especially important for the Dedmon Center's interior climate control and temperature regulation. In addition to the roof's replacement, the facility is undergoing numerous other renovations, including the installation of a new HVAC system.

Circle 163 for more information ■ freeproductinfo.net/asu



Prefabricated booth

B.I.G. Enterprises. The Aztec booth is designed with a heavy-duty Type 304 stainless-steel plate floor, covered with industrial rubber tiles. The doors are hurricane-rated with stainless-steel hinges, custom commercial steel-framed sliding transaction windows, and dual-pane insulating glass. The booth comes with electrical wiring—including provisions for data, communication and security camera systems; stainless-steel shelves; and a high-output commercial split-system HVAC.

Circle 155 for more information
freeproductinfo.net/asu

Emergency phones



Talk-A-Phone. The Pedestal Mount (Model ETP-PM) can be used with Talk-A-Phone's ADA-compliant, hands-free Emergency/Access Control Phones. This unit provides a durable, easy-to-use security solution for access control, as well as general emergency phone requirements. It automatically identifies its location to the guard receiving the call. Auxiliary outputs enable the guard to open the door remotely for those entitled to access, and automatically activate other equipment such as CCTV.

Circle 156 for more information
freeproductinfo.net/asu

Dual-motor vacuum



Electrolux/Sanitaire. The DuraLux dual-motor vacuum cleaner features an extra-large intake to handle clog-prone items. Its independently controlled twin motors and a durable chromed steel brush roll with an automotive-style V belt pulley enable it to tackle a full range of commercial floor-cleaning challenges. Its sealed HEPA filtration system captures 99.97 percent of allergens and pollen down to 0.3 microns.

Circle 157 for more information
freeproductinfo.net/asu



Mobile display

Screenflex. The Three Wing Mobile Display Tower is a versatile, unique display tower for artwork or other items. It is available in two heights: 5 feet, 9 inches or 6 feet, 5 inches. It accepts push pins, tacks or staples; easily rolls from room to room; and folds flat for storage.

Circle 158 for more information
freeproductinfo.net/asu



Energy recovery

Greenheck. The VersiVent Model VER energy-recovery unit features a total energy wheel, a centrifugal plenum supply fan, 2-inch double-wall construction and hinged access. Cooling options include Chilled Water, Split System DX and Packaged DX with environmentally friendly R410a refrigerant. Hot water, indirect gas or electric heating options are available.

Circle 161 for more information
freeproductinfo.net/asu



UVC kit

Steril-Aire. The new UVC Kit for Unitary Air Conditioners provides economical and long-lasting ultraviolet C performance. Designed for easy installation in unitary systems of less than 5 tons, the kit can be used with mini-split and ductless systems, split systems, packaged terminal air-conditioning (PTAC) units, heat pumps and window units with coil sizes up to 15 inches high by 26 inches wide. ■

Circle 162 for more information
freeproductinfo.net/asu

Bird control

Nixalite. Premium Nixalite bird-control strips are a clean, quiet and efficient physical barrier that prevents pest birds from landing, roosting or nesting on all types of surfaces. Available in three models and with up to 120 points per foot, the strips provide gap-free surface protection. The thin wires are inconspicuous, but effective at keeping birds and climbing animals at bay. A flexible base strip follows curved surfaces and can be cut into custom lengths easily during installation.

Circle 159 for more information
freeproductinfo.net/asu

Technology management

Calypso Control Systems/SchoolView Technologies. The integration of SchoolView Technologies' CampusSV and Calypso Control Systems' ezRoom Classroom system produces a comprehensive school and classroom management solution. The partnership creates a single, fully-integrated platform for managing school technologies from classroom A/V technology to bells, clocks, public-address systems, digital signage and emergency-alert systems.

Circle 160 for more information
freeproductinfo.net/asu

ACORN AQUA ::
Suitable For Any Environment

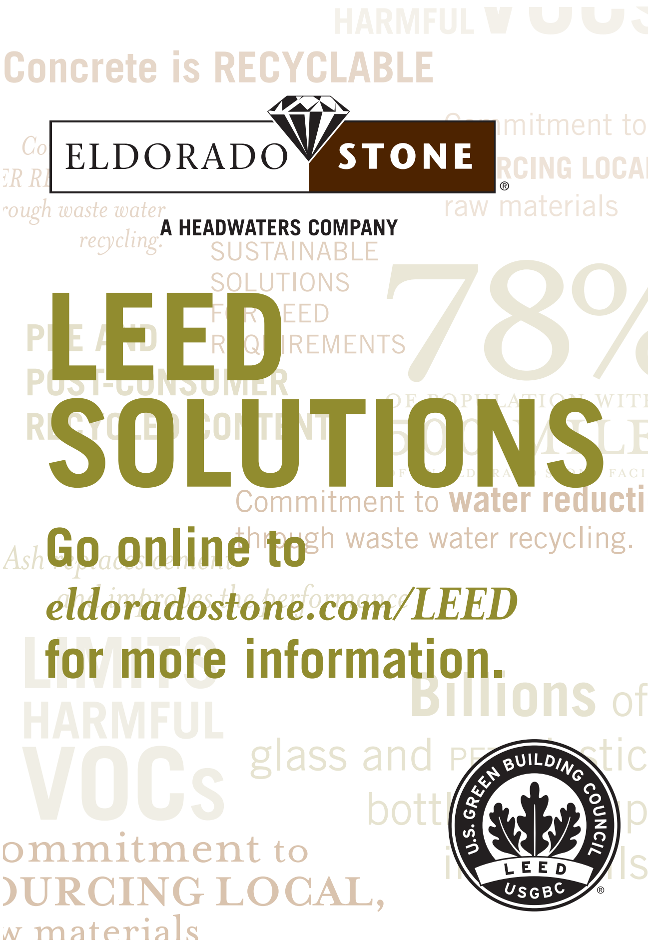


The **A111108B-VRB** is the new Aqua Access model where cost effectiveness, durability and compliance meet. Based on the same sturdy construction as all Aqua Access models, the A111108B-VRB incorporates a forged polished chrome brass bubbler and flush mounted brass button to reduce incidents of wear and tear. The A111108B-VRB is fully compliant with Child ADA frontal and parallel approach

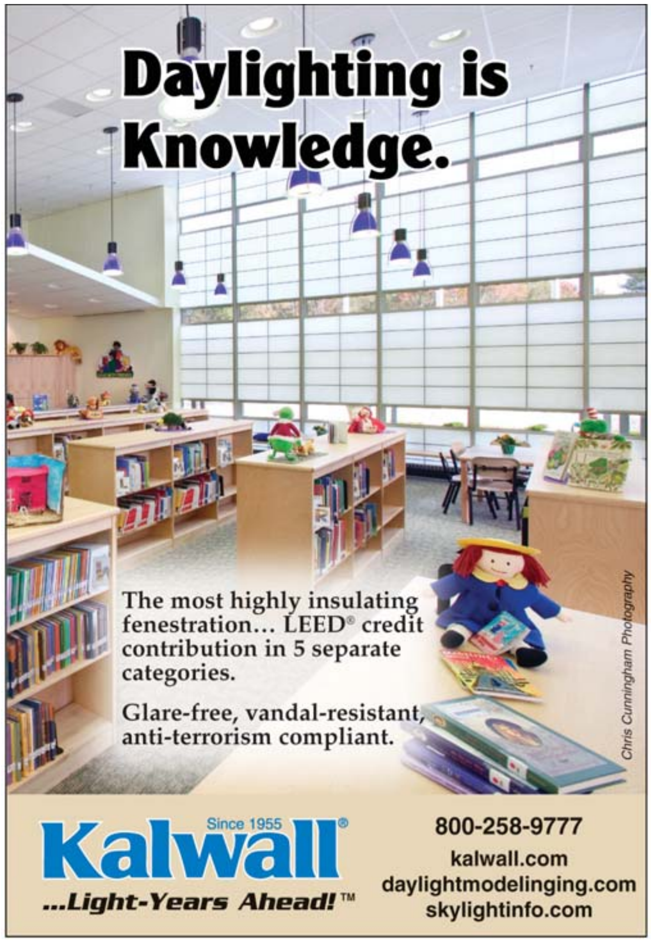
ACORN Aqua™
a division of
Acorn Engineering® Company

[800] 591-9360
:: acornaqua.com ::

Circle 122 for more information ■ freeproductinfo.net/asu



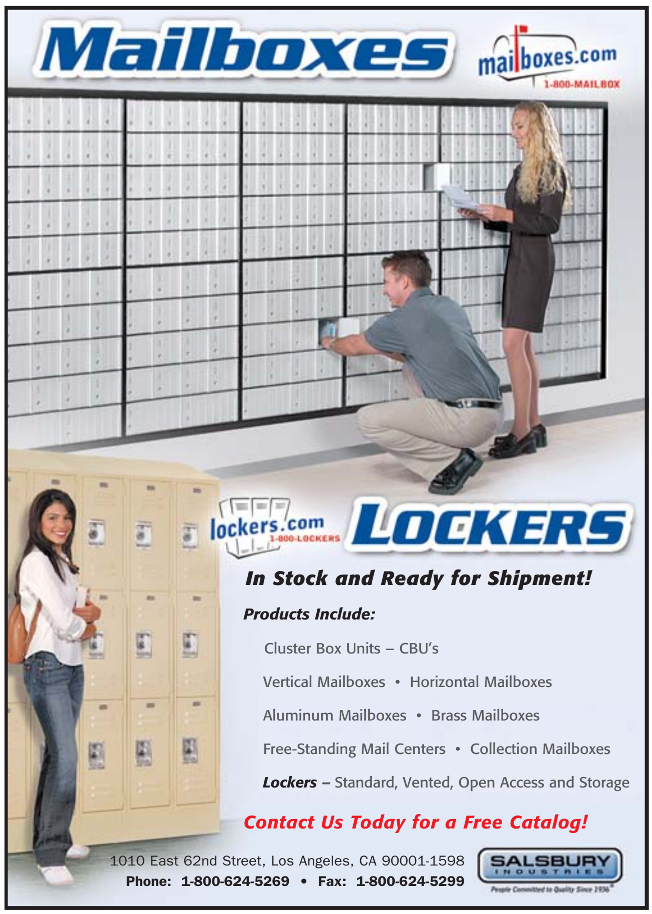
Circle 200 for more information



Circle 201 for more information



Circle 202 for more information



Circle 203 for more information



SIMPLEX® TRUEALERT® EMERGENCY VISUAL MESSAGING APPLIANCE

Visual text information can help guide people in an emergency

New visual notification device can help protect gymnasiums, subway stations, airport terminals, factories, office buildings and more, where high noise levels and poor acoustics can muffle voice messages. An electronic readerboard displaying two-line, easy-to-read LED text messages, the TrueAlert Messaging Display strengthens Simplex addressable fire alarm systems emergency notification capabilities.

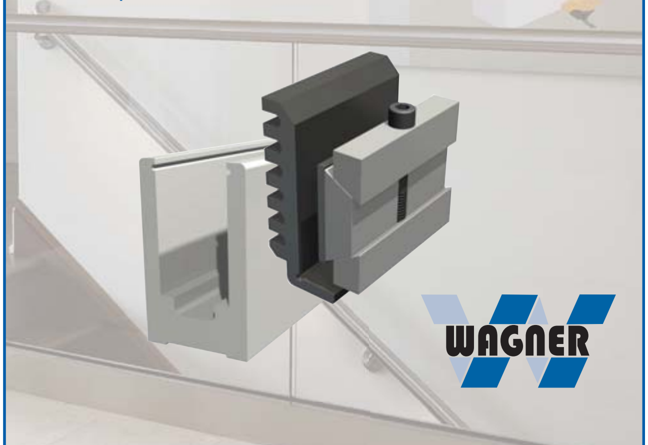
SimplexGrinnell BE SAFE.

For more information, visit ***www.simplexgrinnell.com*** or call **800-746-7539**.

Circle 204 for more information

PanelGrip™
Patent Pending

- Dry Glaze for Structural Glass Railing
- 50% Labor Savings Over Wet Glaze
- Shoe Moulding 30% Lighter
- For ½" or ¾" Tempered Glass
- No Special Tools



WAGNER

THE WAGNER COMPANIES
www.panelgrip.com
(888) 243-6914

Circle 205 for more information

AMERICAN SCHOOL & UNIVERSITY



Photo: tBP/Architecture

Looking for Products, Suppliers, Associations or Design Professionals?

The American School & University **Buyers' Guide & Industry Sourcebook** is the most complete resource for education administrators. Published every spring, it's an issue to keep and use all year long.

Online? Visit the Product Directory at ASUmag.com, an enhanced online version of the Buyers' Guide & Industry Sourcebook issue. Point and click for company listings, contact information and hotlinks.



ASUmag.com | SchoolDesigns.com

www.bird-x.com



Get Rid of Birds - Bird Control Experts since 1964. Offering the world's most complete, safe & affordable bird control products with guaranteed solutions!

Visit us online at
www.asumag.com


PROFESSIONAL
BIRD CONTROL PRODUCTS
The Industry Leader Since 1992!
The #1 Specified Bird Control Products by Architects & Government Agencies.
Longest Guarantees!
Stainless Steel Bird Spikes
Bird Netting
Shock Track Systems
Over 100 Products Available!
● Effective and Humane Bird Control!
● Lowest Cost, Highest Quality Products Keeps Job Costs Down!
● VIRTUALLY INVISIBLE / DISCREET SOLUTIONS!
Guaranteed Solutions for ALL Pest Bird Problems!
Call 1-800-392-6915
For Free Samples & Information
BIRD•B•GONE INC.
nobirds@birdbgone.com
www.birdbgone.com/ASU
GSA Advantage!®
www.gsaAdvantage.gov
GS-06F-0075P


Save Big.
Classified advertising in AS&U is your best value!
CONTACT:
Gary Kazmier
gary.kazmier@penton.com • Phone: 770.618.0374


Is Ad Design Leaving You
Fit To Be Tied?
DON'T WORRY.
We make it EASY for you to advertise with us!
We offer complimentary creative services when you place an ad in AS&U's Marttketplace, Literature for Administrators or Classifieds.
Just send us your artwork & text, and we will build your ad for you!
For details, contact
GARY KAZMIER
@770.618.0374



Circle 206 for more information





AD INDEX

For more information on products and services for education facilities and business, refer to the advertisements of interest and circle the corresponding reader service numbers on the free info cards.

For ad production questions, deadlines and ad specifications, please contact Jessica Andreas at (913)967-1845, Fax (913)514-7087.

SALES TEAM

Inside Sales
Gary Kazmier
6151 Powers Ferry Road NW,
#200, Atlanta, GA 30339
Phone (770) 618-0374
Fax (770) 618-0204
gary.kazmier@penton.com

National Sales Manager
Bill Perry
6151 Powers Ferry Road NW,
#200, Atlanta, GA 30339
Phone (770) 618-0453
Fax (770) 618-0349
bperry@asumag.com
Serving: AL, AR, FL, GA, LA, MS, NC, OK, SC, TN, TX

JoAnne Romanek
306 Shaker Lane
West Chester, PA 19380
Phone (913) 981-6132
Fax (913) 514-6356
jromanek@asumag.com
Serving: CT, DC, DE, IA, KY, ME, MD, MA, MI, MN, NH, NJ, NY, OH, PA, RI, VT, VA, WV, Eastern Canada

Ron Levinson
7212 E. Whistling Wind Way
Scottsdale, AZ 85255
Phone (480) 473-4800
Fax (480) 473-7008
ron@levinsonmedia.com
Serving: AK, AZ, CA, HI, ID, MT, NV, OR, UT, WA, WY, Western Canada

Tom Nilsen
269 S. Old Creek Road
Vernon Hills, IL 60061
Phone (847) 634-0850
Fax (913) 514-3969
tom.nilsen@penton.com
Serving: CO, IL, IN, KS, MO, NE, NM, ND, SD, WI

Editorial Business Office: 9800 Metcalf, Overland Park, KS 66212-2216. (P.O. Box 12901, Overland Park, KS 66282-2901).
Phone: (913) 341-1300, Fax: (913) 967-1905, Website: www.asumag.com

American School & University (ISSN: 0003-0945) February 2009, Volume 81, Number 6, published monthly, with a 13th issue in June, free to qualified persons in the United States, by Penton Media, Inc., 9800 Metcalf Ave., Overland Park, KS 66212-2216 (penton.com). Subscription rates: Free and controlled circulation to qualified subscribers. Non-qualified persons may subscribe at the following rates: USA: 1 year, $69, 2 years, $109; Canada: 1 year, $79, 2 years, $139; other international: 1 year, $99, 2 years, $159. For subscriber services or to order single copies, write to American School & University, P.O. Box 2100, Skokie, IL 60076-7800 USA; call (866) 505-7173 (USA) or (847) 763-9504 (Outside USA); or visit www.asumag.com. Periodicals postage paid at Shawnee Mission, KS and additional mailing offices. Canadian Post Publications Mail Agreement No. 40612608. Canada return address: Bleuchip International, P.O. Box 25542, London, ON N6C 6B2. **POSTMASTER:** Send address changes to American School & University, P.O. Box 2100, Skokie, IL 60076-7800 USA. Allow 6 to 8 weeks for change of address. Copyright ©2009.

"Our gym floors are the most expensive floors in our schools, so we have to be confident in the products we use. The Buckeye Reflections Wood Floor Program is a complete program, not just products, and the training is phenomenal! Now we can do our gym floors in-house and save money, and still get results like this!"

Francis Howell School District
St. Charles, MO



Back row (left to right):
Jim Nilges, Todd Phipps, Mike Peters, William McKay, Greg Lowery, Kelli Scott, Debbie Mitchell, Mike Pagnotti, Harold Meyer, Dennis Nasufovic,
Front row (left to right):
David Kemna, Kurt Duncan, Tom Burrows, Jim Nash, Jeff Bohler

Buckeye International, Inc.
2700 WAGNER PLACE • MARYLAND HEIGHTS • MO 63043
(314) 291-1900 • www.buckeyereflections.com

Buckeye®

Circle 123 for more information ■ freeproductinfo.net/asu



CREATIVE FURNITURE SOLUTIONS FOR EDUCATIONAL ENVIRONMENTS













VS America, Inc.:
1940 Abbott Street, Unit 501
Charlotte, NC 28203
Phone: 704-378-6500
Fax: 704-378-6005

info@vs-furniture.com
www.vs-furniture.com

Circle 125 for more information ■ freeproductinfo.net/asu